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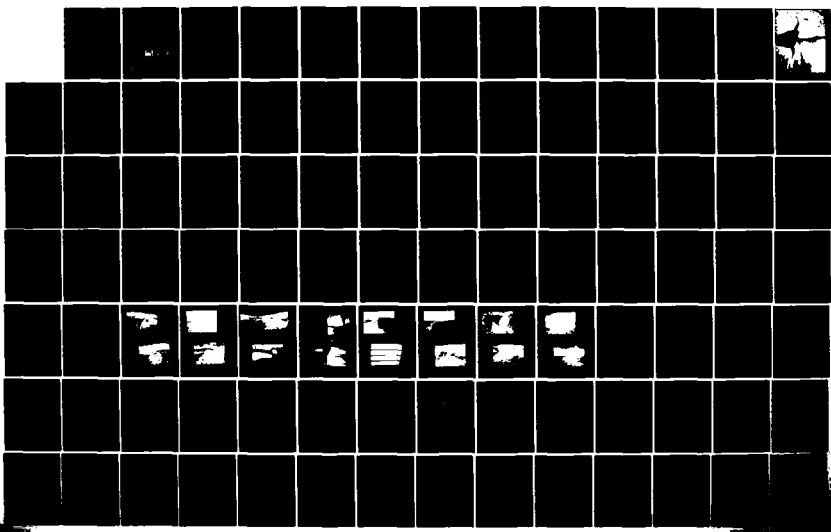

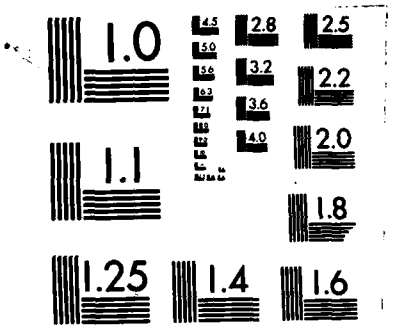

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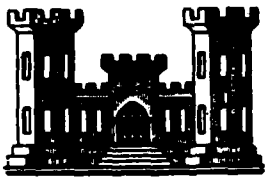
MERRIMACK RIVER BASIN

WENTWORTH, NEW HAMPSHIRE

BAKER FLOODWATER RESERVOIR
SITE 11A
NH 00247

NHWRB NO. 249.14

PHASE I INSPECTION REPORT
NATIONAL DAM INSPECTION PROGRAM



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
WALTHAM, MASS. 02154

JULY 1979

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Cover program reads: Phase I Inspection Report, National Dam Inspection Program; however, the official title of the program is: National Program for Inspection of Non-Federal Dams; use cover date for date of report.

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

DAMS, INSPECTION, DAM SAFETY,
Merrimack River Basin,
Wentworth, New Hampshire,
Tributary to Baker River.

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The dam is a 640 ft. long, 24 ft. high earthen structure. The visual inspection revealed that the dam is in good condition. The inspections also revealed random surface cracks and scaling of the concrete on the riser structure. It is small in size with a high hazard potential classification. There are no recommendations resulting from the inspection.

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DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02154

REPLY TO
ATTENTION OF:
NEDED

DEC 0 6 1979

Honorable Hugh J. Gallen
Governor of the State of New Hampshire
State House
Concord, New Hampshire 03301

Dear Governor Gallen:

Inclosed is a copy of the Baker Floodwater Reservoir Site 11A Phase I Inspection Report, which was prepared under the National Program for Inspection of Non-Federal Dams. This report is presented for your use and is based upon a visual inspection, a review of the past performance and a brief hydrological study of the dam. A brief assessment is included at the beginning of the report. I have approved the report and support the findings and recommendations described in Section 7 and ask that you keep me informed of the actions taken to implement them. This follow-up action is a vitally important part of this program.

A copy of this report has been forwarded to the Water Resources Board, the cooperating agency for the State of New Hampshire and the owner of the dam.

Copies of this report will be made available to the public, upon request, by this office under the Freedom of Information Act. In the case of this report the release date will be thirty days from the date of this letter.

I wish to take this opportunity to thank you and the Water Resources Board for your cooperation in carrying out this program.

Sincerely,

MAX B. SCHEIDER
Colonel, Corps of Engineers
Division Engineer

Incl
As stated

BAKER FLOODWATER RESERVOIR SITE 11A

NH 00247

NHWRB 249.14

MERRIMACK RIVER BASIN
WENTWORTH, NEW HAMPSHIRE

PHASE I INSPECTION REPORT
NATIONAL DAM INSPECTION PROGRAM

NATIONAL DAM INSPECTION PROGRAM
PHASE I - INSPECTION REPORT
BRIEF ASSESSMENT

Identification No.: NH00247

Name of Dam: Baker Floodwater Reservoir Site 11A

Town: Wentworth

County and State: Grafton, New Hampshire

Stream: Tributary to Baker River

Date of Inspection: May 16, 1979

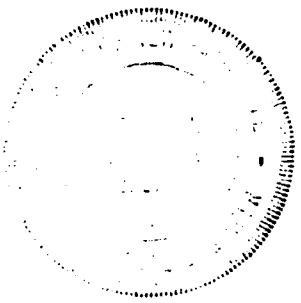
Baker Floodwater Reservoir Site 11A is a 640 foot long 24 foot high earthen structure. There is one fill zone in the dam which includes a cutoff wall. Top width of the dam is 12 feet. The upstream and downstream embankments are on a 3 horizontal to 1 vertical slope. Appurtenant structures consist of a principal spillway, plunge pool stilling basin and emergency spillway. The principal spillway has two inlets, a low stage orifice and a high stage covered top spillway. The inlets discharge through the riser to a 2.5 foot diameter concrete pipe. The reservoir can be drained by a 12 inch diameter gated pipe. The dam construction was completed in November of 1971. Plans, design calculations and construction data were prepared by the Soil Conservation Service and are available for inspection.

The visual inspection revealed that the dam is in good condition. The visual inspection revealed random surface cracks and scaling of the concrete on the riser structure and a fallen tree in the channel downstream of the dam.

Based on the small size of the dam and its high hazard classification and in accordance with Corps of Engineers guidelines, the test flood inflow should be between 1/2 the Probable Maximum Flood (PMF) and the full PMF. A test flood inflow equal to 1/2 the PMF, which is equal to 1,580 cfs, was used. The routed test flood outflow of 670 cfs does not overtop the dam. With the water level at the top of the dam, the spillways will pass the routed test flood outflow. The hydraulic design calculations indicate that the principal spillway was designed for a 100 year frequency flood. The crest elevation of the dam was designed using a watershed runoff depth of 5.81 inches.

There are no recommendations resulting from the Phase I Inspection. Remedial measures include the establishment of a downstream warning system in the event of emergency, the removal of a fallen tree in the downstream channel, and repair of the cracks and scaling of concrete on the riser structure.

The remedial measures are described in Section 7 and should be completed within two (2) years of the receipt of this report by the owner.



Gordon H. Slaney, Jr., P.E.
Project Engineer

Howard, Needles, Tammen & Bergendoff
Boston, Massachusetts

This Phase I Inspection Report on Baker Floodwater Reservoir Site 11A has been reviewed by the undersigned Review Board members. In our opinion, the reported findings, conclusions, and recommendations are consistent with the Recommended Guidelines for Safety Inspection of Dams, and with good engineering judgment and practice, and is hereby submitted for approval.

JOSEPH W. FINEGAN, JR., MEMBER
Water Control Branch
Engineering Division

CARNEY M. TERZIAN, MEMBER
Design Branch
Engineering Division

JOSEPH A. MCELROY, CHAIRMAN
Chief, NED Materials Testing Lab.
Foundations & Materials Branch
Engineering Division

APPROVAL RECOMMENDED:

JOE B. FRYAR
Chief, Engineering Division

PREFACE

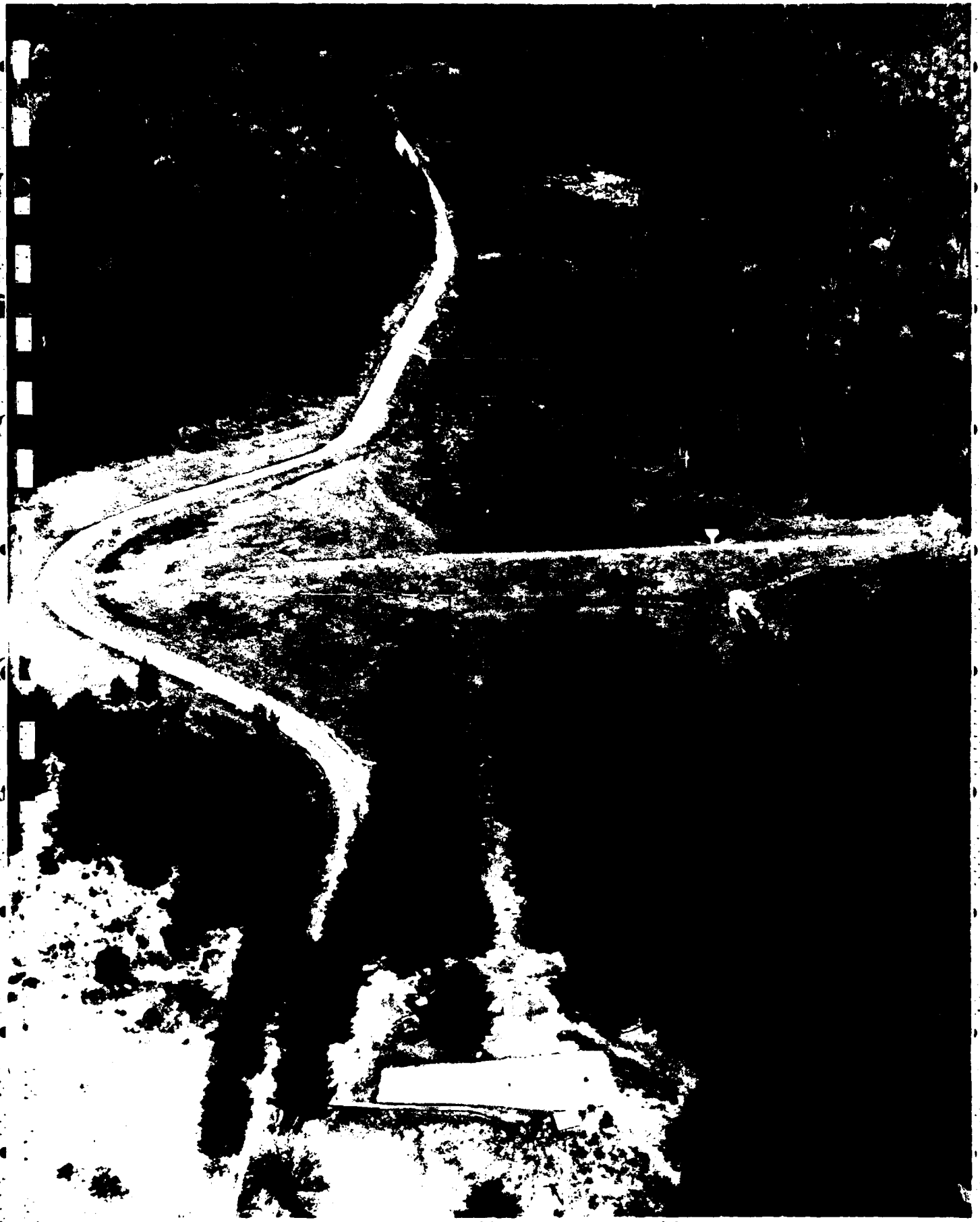
This report is prepared under guidance contained in the Recommended Guidelines for Safety Inspection of Dams, for Phase I Investigations. Copies of these guidelines may be obtained from the Office of Chief of Engineers, Washington, D.C. 20314. The purpose of a Phase I Investigation is to identify expeditiously those dams which may pose hazards to human life or property. The assessment of the general condition of the dam is based upon available data and visual inspections. Detailed investigation and analyses involving topographic mapping, subsurface investigations, testing and detailed computational evaluations are beyond the scope of a Phase I Investigation; however, the investigation is intended to identify any need for such studies.

In reviewing this report, it should be realized that the reported condition of the dam is based on observations of field conditions at the time of inspection along with data available to the inspection team. In cases where the reservoir was lowered or drained prior to inspection, such action, while improving the stability and safety of the dam, removes the normal load on the structure and may obscure certain conditions which might otherwise be detectable if inspected under the normal operating environment of the structure.

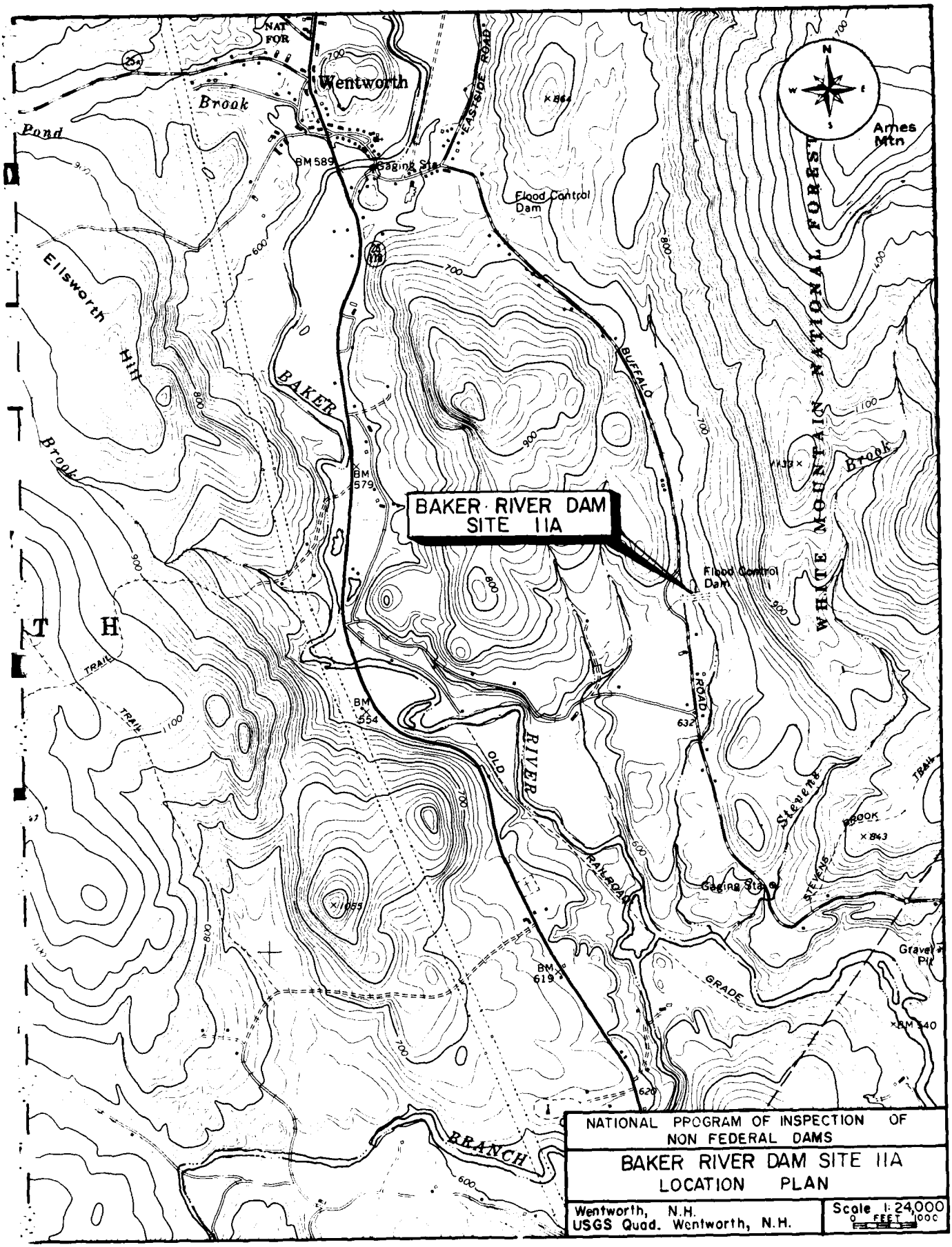
It is important to note that the condition of a dam depends on numerous and constantly changing internal and external conditions, and is evolutionary in nature. It would be incorrect to assume that the present condition of the dam will continue to represent the condition of the dam at some point in the future. Only through continued care and inspection can there by any chance that unsafe conditions be detected.

Phase I inspections are not intended to provide detailed hydrologic and hydraulic analyses. In accordance with the established Guidelines, the Spillway Test Flood is based on the estimated "Probable Maximum Flood" for the region (greatest reasonably possible storm runoff), or fractions thereof. Because of the magnitude and rarity of such a storm event, a finding that a spillway will not pass the test flood should not be interpreted as necessarily posing a highly inadequate condition. The test flood provides a measure of relative spillway capacity and serves as an aide in determining the need for more detailed hydrologic and hydraulic studies, considering the size of the dam, its general condition and the downstream damage potential.

TABLE OF CONTENTS



BAKER RIVER DAM - SITE 11A - Overview looking upstream



NATIONAL PROGRAM OF INSPECTION OF NON FEDERAL DAMS

BAKER RIVER DAM SITE 11A
LOCATION PLAN

Wentworth, N.H.
USGS Quad. Wentworth, N.H.

Scale 1:24,000
0 FEET 1000

NATIONAL DAM INSPECTION PROGRAM
PHASE I INSPECTION REPORT
BAKER FLOODWATER RESERVOIR SITE 11A

SECTION 1
PROJECT INFORMATION

1.1 General

a. Authority. Public Law 92-367, August 8, 1972, authorized the Secretary of the Army, through the Corps of Engineers, to initiate a National Program of Dam Inspection throughout the United States. The New England Division of the Corps of Engineers has been assigned the responsibility of supervising the inspection of dams within the New England Region. Howard, Needles, Tammen & Bergendoff has been retained by the New England Division to inspect and report on selected dams in the State of New Hampshire, Authorization and notice to proceed were issued to Howard, Needles, Tammen & Bergendoff under a letter of March 30, 1979 from John P. Chandler, Colonel, Corps of Engineers. Contract No. DACW33-79-C-0060 has been assigned by the Corps of Engineers for this work.

b. Purpose.

(1) To perform technical inspection and evaluation of non-Federal dams to identify conditions which threaten the public safety and thus permit correction in a timely manner by non-Federal interests.

(2) To encourage and prepare the states to initiate quickly effective dam safety programs for non-Federal dams.

(3) To update, verify and complete the National Inventory of dams.

1.2 Description of Project

a. Location. Baker Floodwater Reservoir Site 11A (Baker Dam Site 11A) is located on a tributary to the Baker River approximately 0.5 miles upstream of Buffalo Road in the Town of Wentworth, New Hampshire. The Dam is shown on U.S.G.S. Quadrangle Wentworth, New Hampshire, with approximate coordinates N43°-50'-54", W71°-53'-30", Grafton County, New Hampshire. The location of Baker Dam Site 11A is shown on the preceding page.

b. Description of Dam and Appurtenances. Baker Dam Site 11A is an earthen embankment structure. Total length of the dam, according to existing drawings, is 640 feet. Maximum structural height is 35 feet with a 24 foot height from top of dam to the stream bed. According to the plans, there is one fill zone in the structure, which includes a cutoff wall. Top width of the dam is 12 feet and the embankment is on a 3 horizontal to 1 vertical slope both up and downstream.

Appurtenant structures consist of a concrete riser and pipe principal spillway with a covered top inlet. There are two stages to the inlet structure, a low stage orifice and a high stage covered inlet. The riser discharges through a 2.5 foot diameter concrete pipe and a plunge pool type stilling basin. The emergency spillway is located on the right side of the dam and has a width of 140 feet. It is an excavated earthen structure with a vegetative cover. A 12 inch diameter pond drain pipe can be opened from the riser structure to lower the water level. There is a 12 inch diameter gate valve at the riser. A "WYE" fitting on the pond drain pipe, which is ungated, discharges to the low stage trash rack to serve as a secondary approach channel to the low stage intake.

Figures 1 and 2, located in Appendix B, show a plan of the dam and appurtenant structures. Photographs of each structure are shown in Appendix C.

c. Size Classification. Small (hydraulic height - 24 feet, storage - 355 acre-feet) classification based on height being less than 40 feet and storage being less than 1,000 acre-feet as given in Recommended Guidelines for Safety Inspection of Dams.

d. Hazard Classification. The potential for hazard posed by this dam is classified as high. Failure of this dam at maximum pool elevation (top of dam) would result in an average flood wave about 17 feet high through the reach studied, for 1.1 miles downstream of the dam. Four dwellings in the reach would be flooded, and the bridge at Buffalo Road would be overtopped.

e. Ownership. This dam is owned by the New Hampshire Water Resources Board, 37 Pleasant Street, Concord, New Hampshire.

f. Operator. This dam is maintained and operated by the New Hampshire Water Resources Board. Chairman of the Water Resources Board is Mr. George McGee, Sr.; Mr. Vernon Knowlton is Chief Engineer, Telephone No. 603/271-1110.

g. Purpose of Dam. This dam is used for floodwater control. The normal pool is maintained by the low stage intake in the riser. The storage between the low stage outlet and the emergency spillway crest is used for floodwater control.

h. Design and Construction History. The construction of this dam was completed in November of 1971. Design and construction inspection of this dam were done by the Soil Conservation Service, Durham, New Hampshire. The construction contractor was Robie Construction Company, Inc.

i. Normal Operating Procedures. The normal pool is maintained by the low stage inlet on the riser. Under flood conditions, when the capacity of the low stage orifice is exceeded, the storage is utilized. The high stage outlet will reach maximum design discharge before the reservoir reaches the crest of the emergency spillway The dam does not require any manual operation in order to function.

1.3 Pertinent Data

a. Drainage Area. The area tributary to Baker Site 11A consists of 1.05 square miles of mountainous terrain. There is no development in the watershed except for a road and several dwellings. Maximum elevation is about 2,060 feet, MSL, and the crest of the dam is at elevation 681.5.

The area around the reservoir is mostly wooded. There are no cottages or dwellings along the shorline. A roadway passes to the right of the reservoir area. The pool area is swamp with many stumps and dead trees.

b. Discharge of Dam Site.

(1) Outlet works for Baker Dam Site 11A consist of an emergency spillway, a riser with a low stage orifice and a high stage covered top spillway, and a 12 inch pond drain pipe controlled by a gate. Invert of the pond drain is at 659.18 feet, MSL. Maximum discharge of the pipe when the reservoir is at the normal pool level of 663.5 feet is about 9 cfs. The low stage orifice has two openings 6 inches by 7 inches in size set at invert 663.5. Capacity of the low stage inlet when the reservoir is at the crest of the high stage inlet (676.76) is 11 cfs. The high stage covered inlet crest set at elevation 676.76 has a capacity of 97 cfs when the water level is at the emergency spillway crest of 678.5. The 140 foot wide emergency spillway has a crest of elevation 678.5 when the water surface is at the top of dam (elevation 681.5) the spillway will have a capacity of 1,169 cfs.

(2) There are no records available of maximum discharge at the site.

(3) The spillway and riser capacity with the water surface at the top of the dam is approximately 1,275 cfs at elevation 681.5.

(4) Spillway and riser capacity with the water surface elevation at the test flood elevation of 680.5 feet is approximately 670 cfs.

(5) The total project discharge at the test flood elevation of 680.5 feet is 670 cfs.

c. Elevation (feet above MSL)

(1) Streambed at centerline of dam - 657.5

(2) Maximum tailwater - unknown

(3) Upstream portal invert pond drain - 659.18

(4) Normal pool - 663.5

(5) Full flood control pool - 678.4

(6) Spillway crest (riser crest) - 676.76 (emergency spillway) - 678.5.

(7) Design surcharge - 678.4

(8) Top Dam - 681.5

(9) Test Flood Surcharge - 680.5.

d. Reservoir (miles)

(1) Length of Maximum Pool - .77

(2) Length of Normal Pool - .14

(3) Length of Flood Control Pool - .74

e. Storage (gross acre-foot)

(1) Normal Pool - 9.3

(2) Flood Control Pool - 232

(3) Emergency Spillway Crest Pool - 238

(4) Top of Dam - 355

f. Reservoir Surface (acres)

(1) Normal Pool - 4

(2) Flood Control Pool - 31

(3) Spillway Crest - 33

(4) Test Flood Pool - 37

(5) Top Dam - 37

g. Dam

(1) Type - earth

(2) Length - 640 feet

(3) Height - 24 feet hydraulic
35 feet structural

(4) Top Width - 12 feet

(5) Side Slopes - upstream and downstream 3 horizontal to 1 vertical

(6) Zoning - one fill zone

(7) Impervious core - none

(8) Cutoff - zone 1 fill

(9) Grout Curtain - none

(10) Other - none

h. Diversion and Regulating Tunnel

See Section j

i. Principal Spillway

(1) Type - concrete riser, covered top

(2) Length of Weir - total 15 feet

(3) Crest Elevation - 676.76

(4) Gates - outlet pipe 2.5 feet diameter

(5) U/S Channel - none

Emergency Spillway

(1) Type - earth

(2) Length of Weir - 140 feet wide

(3) Crest Elevation - 678.5

(4) Gates - none

(5) U/S Channel - Approach channel from reservoir is 140 feet wide with 2½ to 1 side slopes

(6) Downstream Channel - Below the outlet structure for a distance of 150 feet the channel has grass lined banks, and a rip-rapped channel. Downstream of this section the channel enters a wooded area. Within the wooded area there are many large fallen trees in the channel.

j. Regulating Outlets. The normal level of the reservoir is controlled by two 7 inch by 6 inch orifice inlets set in the riser at invert elevation 663.5. There is a trash rack for each opening but no control gates. The 12 inch pond drain pipe set at invert 659.18 extends 17 feet into the reservoir from the riser, and has a trash rack at the intake. The pipe is controlled at the riser by a 12 inch diameter gate valve. A "wye" connection on the pond drain pipe discharges to the low stage trash rack and functions as a secondary low stage inlet.

SECTION 2
ENGINEERING DATA

2.1 Design

A complete set of design data including layout, hydraulic design, foundation and embankment design, geology and soils reports, structural design, quantities and specifications are available for Baker Dam Site 11A. In addition, there are construction drawings available. Design of the dam was done by the Soil Conservation Service , Durham, New Hampshire.

2.2 Construction

The dam construction was completed in November of 1971. A complete record of construction documents were made available. These documents include: as-built plans, job diaries surveying records, test drilling logs, compaction test results, concrete tests and certificate of completion. Construction was by Robie Construction Co., Inc. and was inspected by the Soil Conservation Service, Durham, New Hampshire.

2.3 Operation

Normally, the pond drain line gate is closed. The normal level of 663.5 feet is maintained by the low stage orifice openings. The principal spillway riser and reservoir storage is designed to retard runoff from up to a 100 year frequency storm without discharge occurring in the emergency spillway (Crest 678.5).

2.4 Evaluation

a. Availability. Engineering data available for Baker Dam Site 11A consists of the information outlined in Sections 2.1 and 2.2. The plans, design data, and construction records are available at the offices of the Soil Conservation Service, Federal Building, Durham, New Hampshire 03824.

b. Adequacy. A complete set of design and construction data did allow for a definitive review within the confines of this Phase I - Inspection Report. Therefore, the adequacy of this dam is based on the design and construction data reviewed, visual inspection, past performance history and sound engineering judgement.

c. Validity. The field inspection indicated that the external features of Baker Dam Site 11A substantially agree with those shown on the available plans.

SECTION 3
VISUAL INSPECTION

3.1 Findings

a. General. The field inspection of Baker Dam Site 11A was made on May 16, 1979. The inspection team consisted of personnel from Howard, Needles, Tammen & Bergendoff and Geotechnical Engineers, Inc. Inspection checklists, completed during the inspection, are included in Appendix A. At the time of inspection, the water level was approximately 1.0 foot above the invert of the low stage inlet. The upstream face of the dam could only be inspected above this water level.

b. Dam. Visual inspection of the dam indicated that it is in good condition.

The dam consists of an earth embankment about 640 feet long and 24 feet high. The embankment is a homogeneous fill of silty fine to medium sand with a cutoff trench extending to rock or an impervious silty till. There is a trench drain along the downstream toe.

There is an unpaved emergency spillway cut into the right abutment passing around the embankment.

A principal spillway consisting of an intake structure, concrete conduit and riprap stilling basin is located near the left abutment.

Upstream Slope. The upstream slope is 3 horizontal to 1 vertical and has a 10-foot-wide berm at approximately 16 feet below the crest. At the time of inspection, the pool was slightly below the level of the berm.

The upstream slope has a good grass cover, as shown in Photo No. 2.

Crest. The crest of dam is 12 feet wide and is grass covered, as shown in Photo No. 4. No significant misalignment of the crest was observed.

Downstream Slope. The downstream slope is 3 horizontal to 1 vertical. The slope, shown in Photo No. 3, is grass covered and in good condition.

There is a riprap-lined gutter at the juncture of the downstream slope and the left abutment, which discharges into the outlet works stilling basin.

The trench drain beneath the downstream toe discharges into a riprap-lined pool at the outlet end of the principal spillway. The 12-inch diameter drainpipes were clear and unobstructed.

c. Apurtenant Structures. Visual inspection of the concrete riser principal spillway structure, auxiliary earth spillway and outlet works structure did not reveal any evidence of stability problems with respect to sliding and overturning. The concrete riser structure generally appeared to be in good condition except for some concrete staining, minor random cracks and surface scaling. The principal spillway trash racks are in good condition.

The concrete riser structure consists of three functional elements; a principal spillway with low and high stage inlets, a vertical transition and a closed discharge conduit. The riser structure is located in the embankment.

Field inspection revealed that the riser structure appeared to be in good condition except for rust and water staining, surface scaling, and random surface cracks, see Photos No. 7, 8, 9. The trash racks for the low and high stage intakes consist of standard shape angles and grating. Both trash racks assembles are in good condition.

The principal spillway structure has a riprap-lined approach channel which parallels the upstream toe. The portion of the riprap which could be observed is shown in Photo No. 6 and is in good condition.

The pond drain inlet structure, pipe and gate were under water at the time of inspection. The gate control mechanism located on the top of the riser appeared to be in good operational order.

The 2.5 foot diameter principal spillway discharge pipe and concrete support bedding shown in Photos. No. 13 and 14 appeared to be in good condition. The portion of the riprap above the level of the plunge pool shown in Photo No. 12 appears to be in good condition.

The emergency spillway is about 140 feet wide and clear of obstructions with the exception of some low brush. Photos No. 15 and 16 show the emergency spillway upstream and downstream from the dam axis.

d. Reservoir Area. The area around the reservoir is mostly wooded. There are no cottages or dwellings along the shoreline. A roadway (Buffalo Road) passes along the right shore of the reservoir area. The pool area is swamp with many stumps and dead trees.

e. Downstream Channel. Below the outlet structure and plunge pool the channel is riprapped with grassed banks for a distance of about 150 feet. Downstream of this section the channel enters a wooded area. Just into this portion, there is a large fallen tree in the channel. Photo No. 11 shows a portion of the channel. With the exception of minor cattail growth, the channel is in good condition.

3.2 Evaluation

Visual examination indicates the dam is in good condition. The inspection of the dam revealed the following:

(a) The riser structure has some surface sealing, and random surface cracks.

(b) A large fallen tree in the downstream channel.

SECTION 4
OPERATIONAL PROCEDURES

4.1 Procedure

Baker Dam Site 11A is used for floodwater control. Under normal operating procedures the normal pool level is maintained by the low stage orifice opening in the riser. Flood events up to a 100 year frequency are retarded by the reservoir storage between the normal pool and the emergency spillway crest. The emergency spillway is utilized only with events greater than a 100 year frequency.

4.2 Maintenance of Dam

The dam is inspected on an annual basis by the New Hampshire Water Resources Board and the Soil Conservation Service. Maintenance is undertaken as a result of the inspection on an as needed basis. The dam is visited on a regular basis (approximately monthly) by representatives of the owner to perform regular maintenance

4.3 Maintenance of Operating Facilities

Maintenance of the outlet works is performed as in Section 4.2.

4.4 Description of Warning Systems

There are no warning systems in effect for this facility.

4.5 Evaluation

The current operation and maintenance procedure for this facility appear to be adequate to insure that any problems encountered can be remedied within a reasonable period of time. However, the owner should establish a warning system to follow in the event of flood flow conditions or imminent dam failure.

SECTION 5
HYDROLOGY AND HYDRAULIC ANALYSIS

5.1 Evaluation of Features

a. General. Baker Dam Site 11A is an earthen embankment dam 640 feet long with a hydraulic height of 24 feet. The dam is constructed with one fill zone and a earth fill core. Appurtenant works consist of a two stage riser and a 2.5 foot diameter concrete pipe which discharges to a plunge pool type stilling basin. An emergency spillway 140 feet wide is located on the left side of the dam. There is a 12 inch diameter gated pond drain pipe which discharges to the riser structure.

The dam is used for floodwater control. The dam is classified as small in size having a height of 24 feet and maximum storage of 355 acre-feet.

b. Design Data. According to the Soil Conservation Service design data, this dam is constructed to retard flood flows of up to a 100 year frequency storm without utilizing the emergency spillway. The design flood control elevation is 678.4 feet or 0.1 feet below the emergency spillway crest. Total runoff for this condition is 3.14 inches during a six hour Type IIB storm. The crest elevation of the dam was designed using a watershed runoff depth of 5.81 inches. The structure is classified as having a "B" hazard which is defined as "being located in a predominately rural and agricutural area, where failure may cause damage to isolated homes, main highways or major railroads or cause interruption of use or service of relatively important public utilities."

c. Experience Data. There are no records available of maximum discharge at the dam site.

d. Visual Observations. No evidence of damage to any portion of the project from overtopping was visible at the time of inspection.

e. Test Flood Analysis. Detailed design data is available for this dam, and the basic conditions are noted above in Paragraph b. The hydrologic evaluation was preformed using information gathered by field investigation, watershed characteristics and Probable Maximum Flood (PMF) guide curves prepared by the Corps of Engineers. In accordance with Corps of Engineers guidelines, the high hazard classification and small size of the dam warrent a test flood magnitude ranging from 1/2 the Probable Maximum Flood to the full PMF. A test

flood of 1/2 the PMF was used as the hazard classification is on the lower end of the range with four buildings affected. A test flood inflow of 1,580 cfs is based on a drainage area of 1.05 square miles in mountainous terrain.

The routed test flood outflow was determined in accordance with Corps of Engineers guidance for Estimating Effect of Surcharge Storage on Maximum Probable Discharge and the hydraulic characteristics of the dam. Discharge through both the primary spillway and emergency spillway was considered. The routing was started with the water surface at the normal pool elevation. The routed test flood outflow was determined to be approximately 670 cfs. As the maximum capacity of the spillways is 1,274 cfs there will be a freeboard of 1.0 feet.

f. Dam Failure Analysis. The impact of failure of the dam was assessed using the "Rule of Thumb" Guidance for Estimating Downstream Dam Failure Hydrographs prepared by the Corps of Engineers. The breach discharge was estimated with the water surface at the crest of the dam and a breach width equal to 40 percent of the total length of the dam. The downstream hydrograph is a sum of the breach discharge and the maximum spillway capacity. Prior to the breach of dam, the downstream river stage would be about 4.5 feet the spillways at a full capacity of 1,274 cfs. Breach of dam would result in an additional 50,600 cfs for a total of about 51,900 cfs. The downstream flood stage was estimated through three reaches for a total distance of 1.3 miles from the dam to the Baker River. The flood wave would be about 20.8 feet high at the dam and 14.1 feet at the Baker River. Four dwellings along this reach would be affected. Two dwellings would be flooded by about 6 feet and the other two would be flooded by about 3 feet. In addition, a shack will be totally inundated and a bridge at Buffalo Road will be overtopped by about 11 feet.

SECTION 6
STRUCTURAL STABILITY

6.1 Evaluation of Structural Stability

a. Visual Observations. The visual inspection of Baker Dam Site 11A did not disclose any immediate stability problems.

b. Design and Construction Data. Design drawings and construction specifications exist and indicate the dam is a homogeneous embankment composed of silty fine to medium sand. The dam has a cutoff trench extending to bedrock on an impervious silty till. There is a trench drain along the downstream toe which extends up both abutments.

An emergency spillway cut into the right abutment passes around the embankment.

A review of the construction data available indicates that the dam and appurtenant structures were constructed according to the plans and specifications.

c. Operating Records. There are no operating records available for this facility.

d. Post-Construction Changes. There is no record of post-construction changes.

e. Seismic Stability. The dam is located in Seismic Zone 2 and in accordance with the recommended Phase I guidelines does not warrant seismic analysis.

SECTION 7
ASSESSMENT, RECOMMENDATIONS AND REMEDIAL MEASURES

7.1 Dam Assessment

a. Condition. The visual inspection of Baker Floodwater Reservoir Site 11A indicated the dam is in good condition.

(1) Random surface cracks and scaling of concrete on the riser structure.

(2) A fallen tree across the channel downstream of the dam.

The hydraulic analysis reveals that the spillways can pass the routed test flood without overtopping the dam.

b. Adequacy of Information. A complete set of design and construction data did allow for a definitive review with the confines of this Phase I - Inspection Report. Therefore, the adequacy of this dam is based on the design and construction data review, visual inspection, past performance history and sound engineering judgement.

c. Urgency. This dam is in generally good condition. The remedial measures described in Section 7.3 should be accomplished within 2 years of the receipt of this Phase I-Inspection Report by the owner.

d. Necessity of Additional Investigation. No additional investigation is needed to complete the Phase I Inspection.

7.2 Recommendations

There are no recommendations resulting from the Phase I Inspection.

7.3 Remedial Measures

(a) Devise a warning system to follow in the event of emergency conditions.

(b) Remove the fallen tree from the downstream channel.

(c) Repair surface cracks and scaling on the riser structure.

(d) Establish a system such that the reservoir level can be monitored during periods of intense rainfall.

(e) The periodic inspection should be continued on no less than a biennial frequency.

7.4 Alternatives

There are no practical alternatives to the remedial measures described in Section 7.3.

APPENDIX A

INSPECTION CHECKLIST

VISUAL INSPECTION CHECK LIST
PARTY ORGANIZATION

PROJECT Site 11A, Baker Dam

DATE May 16, 1979

TIME 2:30 PM

WEATHER Fair

W.S. ELEV. 664.5 U.S. - DN.S

PARTY:

1. G. Slaney HNTB
2. S. Mazur HNTB
3. D. LaGatta GEI
4. C. Osgood GEI
5.
6.
7.
8.
9.
10.

	PROJECT FEATURE	INSPECTED BY	REMARKS
1.	Dam	D. LaGatta, C. Osgood	
2.	Spillway, Outlet Works	S. Mazur	
3.	and Downstream Channel	G. Slaney	
4.			
5.			
6.			
7.			
8.			
9.			
10.			

PERIODIC INSPECTION CHECK LIST A - 2

PROJECT BAKER SITE NO. 11A DAM DATE May 16, 1979

PROJECT FEATURE Earth Embankment NAME D. P. LaGatta

DISCIPLINE Geotechnical Engineer NAME C. E. Osgood

AREA EVALUATED	CONDITION
DAM EMBANKMENT	
Crest Elevation	681.5
Current Pool Elevation	664.5
Maximum Impoundment to Date	Unknown.
Surface Cracks	None observed.
Pavement Condition	No pavement.
Movement or Settlement of Crest	None observed.
Lateral Movement	None observed.
Vertical Alignment	No misalignment observed.
Horizontal Alignment	No misalignment observed.
Condition at Abutment and at Concrete Structures	Good.
Indications of Movement of Structural Items on Slopes	No structural items.
Trespassing on Slopes	No evidence of trespassing.
Sloughing or Erosion of Slopes or Abutments	None observed.
Rock Slope Protection - Riprap Failures	No failure observed in gutter or at outlet works.
Unusual Movement or Cracking at or near Toes	None observed.
Unusual Embankment or Downstream Seepage	None. Water level low.
Piping or Boils	None observed.
Foundation Drainage Features	Left and right 12" drainpipe exits are unobstructed.
Toe Drains	None.
Instrumentation System	None.
Vegetation	Grass Covered.

PERIODIC INSPECTION CHECK LIST

PROJECT Site 11A, Baker Dam DATE May 16, 1979

PROJECT FEATURE Intake Channel/Structure NAME D. LaGatta, C. Osgood

DISCIPLINE Geotechnical/Structural NAME S. Mazur

AREA EVALUATED	CONDITION
OUTLET WORKS - INTAKE CHANNEL AND INTAKE STRUCTURE	
a. Approach Channel	Riprap is in good condition as observable.
Slope Conditions	
Bottom Conditions	Not observable.
Rock Slides or Falls	None.
Log Boom	None.
Debris	Some debris at low trash rack.
Condition of Concrete Lining	
Drains or Weep Holes	
b. Intake Structure	Galvanized trash rack and concrete surface of riser structure at high and low stages of inlets are in good condition. Bottom water release structure was under water.
Condition of Concrete	
Stop Logs and Slots	

PERIODIC INSPECTION CHECK LIST

PROJECT Site 11A, Baker Dam — DATE May 16, 1979

PROJECT FEATURE Control Tower — NAME G. Slaney

DISCIPLINE Structural/Hydraulic/Eng. — NAME S. Mazur

AREA EVALUATED	CONDITION
OUTLET WORKS - CONTROL TOWER	
a. Concrete and Structural	Bottom water release structure (pond drain) consists of inlet structure and 12" ID cast iron pipe extended to riser structure. Pond drain structure and control gate were under water.
General Condition	
Condition of Joints	
Spalling	
Visible Reinforcing	
Rusting or Staining of Concrete	
Any Seepage or Efflorescence	
Joint Alignment	
Unusual Seepage or Leaks in Gate Chamber	
Cracks	
Rusting or Corrosion of Steel	
b. Mechanical and Electrical	Mechanically operated gate and control mechanism are housed in riser tower structure. Gate is operated from roof of riser structure. Gate and control mechanism appear to be in good operational condition.
Air Vents	
Float Wells	
Crane Hoist	
Elevator	
Hydraulic System	
Service Gates	
Emergency Gates	
Lightning Protection System	
Emergency Power System	
Wiring and Lighting System	

PERIODIC INSPECTION CHECK LIST

PROJECT Site 11A, Baker Dam DATE May 16, 1979

PROJECT FEATURE Spillway/Outlet Works Conduit NAME G. Slaney

DISCIPLINE Structural/Hydraulic NAME S. Mazur

AREA EVALUATED	CONDITION
OUTLET WORKS - TRANSITION AND CONDUIT	
General Condition of Concrete	At the time of inspection, outlet works conduits were under water. Riser discharge channel consists of 30" reinforced concrete pipe which is placed on concrete bedding. Discharge conduit appears to be in good condition.
Rust or Staining on Concrete	
Spalling	
Erosion or Cavitation	
Cracking	
Alignment of Monoliths	
Alignment of Joints	
Numbering of Monoliths	

PERIODIC INSPECTION CHECK LIST

PROJECT Site 11A, Baker Dam DATE May 16, 1979

PROJECT FEATURE ~~Outlet Structure/Channel~~ NAME D. LaGatta, C. Osgood

DISCIPLINE Structural/Hydraulic/Geotechnical NAME S. Mazur, G. Slaney

AREA EVALUATED	CONDITION
OUTLET WORKS - OUTLET STRUCTURE AND OUTLET CHANNEL	
General Condition of Concrete	Concrete outlet pipe and concrete support bedding are in good condition.
Rust or Staining	Some water staining.
Spalling	None
Erosion or Cavitation	Some erosion at end of supporting bedding
Visible Reinforcing	None.
Any Seepage or Efflorescence	None.
Condition at Joints	Good.
Drain Holes	None.
Channel	Riprap for 30 feet from outlet.
Loose Rock or Trees Overhanging Channel	None.
Condition of Discharge Channel	Clear to edge of woods 150 feet from outlet.

PERIODIC INSPECTION CHECK LIST

PROJECT Site 11A, Baker Dam DATE May 16, 1979

PROJECT FEATURE Outlet Works/Spillway NAME D. LaGatta, C. Osgood

DISCIPLINE Structural/Hydraulic/Geotechnical NAME S. Mazur, G. Slaney

AREA EVALUATED	CONDITION
OUTLET WORKS - SPILLWAY WEIR, APPROACH AND DISCHARGE CHANNELS	
a. Approach Channel	
General Condition	Grass covered.
Loose Rock Overhanding Channel	None.
Trees Overhanging Channel	None.
Floor of Approach Channel	Grass covered.
b. Weir and Training Walls	This facility has two spillway structures; concrete riser with two inlets and auxiliary earth spillway located at right abutment. Both spillways are in good condition.
General Condition of Concrete	
Rust or Staining	Water stain.
Spalling	Some surface scaling.
Any Visible Reinforcing	None.
Any Seepage or Efflorescence	None.
Drain Holes	None.
c. Discharge Channel	
General Condition	Good, grass covered.
Loose Rock Overhanging Channel	None.
Trees Overhanging Channel	None.
Floor of Channel	Grass coverel.
Other Obstructions	None.

PERIODIC INSPECTION CHECK LIST

PROJECT Site 11A, Baker Dam DATE May 16, 1979

PROJECT FEATURE Service Bridge NAME

DISCIPLINE NAME

AREA EVALUATED	CONDITION
OUTLET WORKS - SERVICE BRIDGE	
a. Super Structure	This facility has no service bridge.
Bearings	
Anchor Bolts	
Bridge Seat	
Longitudinal Members	
Under Side of Deck	
Secondary Bracing	
Deck	
Drainage System	
Railings	
Expansion Joints	
Paint	
b. Abutment & Piers	
General Condition of Concrete	
Alignment of Abutment	
Approach to Bridge	
Condition of Seat & Backwall	

APPENDIX B

ENGINEERING DATA

1. LIST OF DESIGN, CONSTRUCTION AND MAINTENANCE RECORDS
2. PAST INSPECTION REPORTS
3. PLAN AND DETAILS

AVAILABLE ENGINEERING DATA

1. A set of drawings (25 sheets), dated November 1970 showing plans and details of the dam and appurtenant structures.

2. Design Data: including layout, hydraulic design, geology and soils reports, structural design, quantities and specifications.

3. Construction Data: including as-built plans, job diarys, surveying records, test drilling logs, compaction test results, concrete tests and certificate of completion.

All of the above are on file with the U.S.D.A. Soil Conservation Service, Federal Building, Durham, New Hampshire 03824.

PAST INSPECTION REPORTS

State of New Hampshire
WATER RESOURCES BOARD
37 Pleasant Street
Concord, N.H. 03301

September 18, 1978

Mr. Keith MacPherson
Soil Conservation Service
Federal Building
Durham, New Hampshire 03824

Dear Mr. MacPherson:

This letter is to inform you of the prevailing conditions at two of the Baker River System Flood Control Sites.

Site No. 6

1- Trash racks have been cleared of debris.

2- All bushes and tree sprouts on the dam have been pulled, cut or sprayed.

3- The concrete is still spalled in several areas of the channel wall and has broken away from the railing posts. The Board feels that it is your agency's responsibility for this repair.

4- To date we have not received your agency's recommendation of corrective action regarding the ponding against the right bank channel wall for our review. During this year's inspection this item was of some concern to Ray Winninger.

5- The traffic signs and riprap have been removed from the outlet channel.

Site No. 11-A ✓ 249.14

1- The bushes and tree sprouts on the dam and in the emergency spillway have been pulled, cut or sprayed.

2- The roadway guardrail repair is to be completed by the Town and not by us.

A more complete report will follow indicating all the work accomplished this year with respect to this year's O & M maintenance field inspection reports.

Very truly yours,

George McGee Sr.

GMM:GLK:paf

George M. McGee, Sr.,
Chairman

MAINTENANCE CHECKLIST FOR PL 566 FLOOD CONTROL STRUCTURES

This maintenance checklist is a guide for determining the maintenance required for Public Law 566 flood control structures in New Hampshire. It doesn't take the place of experience and judgment and is not inclusive. Items of a difficult nature to check, such as principal spillway conduit condition, are not included. Intensive checks of these items are necessary at proper intervals. Review of As Built drawings, the design folder, structure history, and previous maintenance reports should be part of the inspection. Prompt maintenance is a vital part of safe and effective operation.

Except where otherwise indicated, completion of this form may be facilitated by ranking maintenance items on a 1 to 4 basis where

1 = satisfactory
2 = satisfactory, but check carefully at next inspection
3 = requires maintenance this season
4 = requires immediate attention.

249.14

WATERSHED Baker SITE 11A DATE 6-13-78

INSPECTED BY Gary Kerr, Lyall Milligan (WRB); Mike Dannehy, Nick Luhtala, Ray Wenninger (SCS)

1. GENERAL ITEMS

Access Road.	N/A
Site Fencing.	N/A
Traffic Conditions.	1
Vandalism Control.	1
Trash Control.	1

COMMENTS

2. RESERVOIR

Timber stand at reservoir.	1
Debris and slash.	1
Sediment level in relation to low stage inlet	1

COMMENTS

SOIL CONSERVATION SERVICE
U.S. DEPARTMENT OF AGRICULTURE

3. EMBANKMENT AND EXCAVATED SLOPES

(Report riprap and vegetation and erosion condition under Items 4 and 5.)

	Dam	Dike	Emergency Spillways left	Emergency Spillways right 1/	Other (____)	Other (____)
Sliding or sloughing	1	—	—	1	—	—
Holes (rodent and other) (check especially at embankments)	1	—	—	1	—	—
Excessive settlement (embankments)	1	—	—	1	—	—
Cracks						
Traverse	1	—	—	1	—	—
Longitudinal	1	—	—	1	—	—
Seepage 2/	1	—	—	1	—	—
Piping 2/	1	—	—	1	—	—

COMMENTS

4. RIPRAP

	Displ. of Rock	Loss of Spalls	Loss of Bedding	Erosion of Found.	Break-down of Rock
Dam					
Upstream berm	1	1	1	1	1
Principal Spillway Outlet	3	1	1	1	1
Embankment Gutters					
left	1	1	1	1	1
right	—	—	—	—	—
Emergency Spillway					
location_____	—	—	—	—	—
location_____	—	—	—	—	—
Waterways					
location_____	—	—	—	—	—
location_____	—	—	—	—	—
Outlet Channel	—	—	—	—	—
Other_____	—	—	—	—	—

COMMENTS A few stones at PS outlet should be moved from the pipe outlet back to the side of the plunge pool.

1/Looking downstream.
2/Check especially at downstream face of embankments.

5. VEGETATION

	Dam	Emergency Spillways left	Emergency Spillways right 1/	Dike	Outlet Channel	Water way	Other (____)
Condition of stand (including need for lime and fertilizer)	1	___	1	___	___	___	___
Undesirable vegetation	___	___	___	___	___	___	___
Drainage (surface)	___	___	___	___	___	___	___
Erosion 2/	___	___	___	___	___	___	___
Sedimentation	___	___	___	___	___	___	___
Condition of planting	___	___	___	___	___	___	___
Pest control	___	___	___	___	___	___	___
Fire control	___	___	___	___	___	___	___

COMMENTS Emergency spillway - wet and aquatic vegetation coming in. Vegetation looks good.

6. EMBANKMENT, STRUCTURAL, & OTHER DRAINS

		Dam left	Dam right 1/	Other (____)	Other (____)
Depth of Flow (in inches above invert)	With any obstruction	___	___	___	___
	Without any obstruction	none	none	___	___
Turbidity of Discharge (yes, no)	With any obstruction	___	___	___	___
	Without any obstruction	___	___	___	___
Condition of Protective Coating	Outside	1	1	___	___
	Inside	1	1	___	___
Obstruction in Flow (yes, no)		no	no	___	___
Animal Guard Condition		1	1	___	___
Outlet Condition		1	1	___	___

Retarding Pool Elevation (ft. msl)_____ or 0.1 (ft.) ~~above~~ below top of orifice

Other_____

COMMENTS_____

1/Looking downstream.
2/Including wave, surface, stream, manmade, and livestock erosion.

7. RISER

Caution Be extremely careful when using ladders. Check condition before using. Ladders are sometimes broken, loose, corroded, and or slippery.
Use safety harness.

Ladders: inside and out	Condition of protective coating___; Corrosion___; Damaged parts___; Loose___; Other___.
Concrete: ~~inside~~ and out	Cracking 1 ; Spalling 1 ; Other deterioration 1 ; Excessive movement (check joint at riser and conduit)___; Other___.
Trashracks: low and high stage	Condition of protective coatings 1 ; Corrosion 1 ; Damaged parts 1 ; Condition of fastenings ___; Need of gratings due to beaver___; Safety condition (protruding fastenings, sharp edges, etc.)___; Other___.
Manhole:	Condition of protective coatings___; Corrosion ___; Damage___; Lock operable___; Other___.
Gate: including lifting device, stem, guides, disc	Condition of protective coating___; Corrosion ___; Damaged parts___; Condition of fastenings___; Stem alignment___; Lubrication___; Operation___; Other___.
Safety Items:	Condition of warning signs___; Condition of safety equipment___; Other___.

COMMENTS Did not go down riser. Should check interior of riser, gate operation and conduit at suitable intervals.

IMPACT BASIN, SAF, BOX INLET, & MISCELLANEOUS CONCRETE STRUCTURES

(specify)_____ _____

N/A

Concrete: inside and out	Cracking___; Spalling___; Other deterioration ___; Excessive movement (check joints)___; Waterstops___; Joint sealant___; Other___.
Trashracks: low and high stage	Condition of protective coatings___; Corrosion ___; Damaged parts___; Condition of fastenings___; Need of gratings due to beaver___; Safety condition (protruding fastenings, sharp edges, etc.)___; Other___.
Gates: including lifting device, stem, guides, disc, flap	Condition of protective coating___; Corrosion ___; Damaged parts___; Condition of fastenings___; Stem alignment___; Operation___; Lubrication___; Wood decay___; Other___.
Structure Drainage:	Report under "Embankment and Other Drains"
Structure, Railing, Grates, Barriers, etc.	Condition of protective coating___; Corrosion ___; Damaged parts___; Condition of Fastenings___; Wood decay___; Safety condition (protruding fastenings, sharp edges, etc.) ___; Other___.
Safety Items:	Condition of warning signs___; Condition of safety equipment___; Other___.

COMMENTS_____

CHANNEL

Stream obstructions.	2
Debris in stream.	1
Sediment bars controlled.	1
Plunge pool stability.	
Fish habitat appurtenances	

Riprap -- Report under "Riprap" (item 4)

COMMENTS Little vegetation in outlet channel.

MAINTENANCE CHECKLIST FOR PL 566 FLOOD CONTROL STRUCTURES

This maintenance checklist is a guide for determining the maintenance required for Public Law 566 flood control structures in New Hampshire. It doesn't take the place of experience and judgment and is not inclusive. Items of a difficult nature to check, such as principal spillway conduit condition, are not included. Intensive checks of these items are necessary at proper intervals. Review of As Built drawings, the design folder, structure history, and previous maintenance reports should be part of the inspection. Prompt maintenance is a vital part of safe and effective operation.

Except where otherwise indicated, completion of this form may be facilitated by ranking maintenance items on a 1 to 4 basis where

1 = satisfactory
2 = satisfactory, but check carefully at next inspection
3 = requires maintenance this season
4 = requires immediate attention.

WATERSHED BAKER RIVER SITE 11A DATE 5-20-77

INSPECTED BY KERR MILLIGAN, CANNEY KELSEY, LUNTALA MACPHERSON

1. GENERAL ITEMS

Access Road.	1
Site Fencing.	3
Traffic Conditions.	1
Vandalism Control.	1
Trash Control.	3

COMMENTS GUARD RAIL POST BROKEN OFF - INLET END OF EM. SPILLWAY. TRASH ON DAM

2. RESERVOIR

Timber stand at reservoir.	2
Debris and slash.	2
Sediment level in relation to low stage inlet	

COMMENTS BLOW DOWNS & DEAD TREES IN RESERVOIR

SOIL CONSERVATION SERVICE
U.S. DEPARTMENT OF AGRICULTURE

3. EMBANKMENT AND EXCAVATED SLOPES

(Report riprap and vegetation and erosion condition under Items 4 and 5.)

	Dam	Dike	Emergency Spillways left	Emergency Spillways right 1/	Other (____)	Other (____)
Sliding or sloughing	1	—	—	1	—	—
Holes (rodent and other) (check especially at embankments)	3	—	—	1	—	—
Excessive settlement (embankments)	1	—	—	1	—	—
Cracks						
Traverse	1	—	—	1	—	—
Longitudinal	1	—	—	1	—	—
Seepage 2/	1	—	—	1	—	—
Piping 2/	1	—	—	1	—	—

COMMENTS HOLE IN DWNSTM FACE ON R SPILLWAY LINE.

4. RIPRAP

	Displ. of Rock	Loss of Spalls	Loss of Bedding	Erosion of Found.	Break-down of Rock
Dam					
Upstream berm	1	—	—	—	—
Principal Spillway Outlet	3	—	—	—	—
Embankment Gutters					
left	1	—	—	—	—
right	-	—	—	—	—
Emergency Spillway					
location_____	-	—	—	—	—
location_____	-	—	—	—	—
Waterways					
location_____	—	—	—	—	—
location_____	—	—	—	—	—
Outlet Channel	1	—	—	—	—
Other_____	—	—	—	—	—

COMMENTS REMOVE ROCKS IMMEDIATELY UNDER OUTLET OF PR. SPILLWAY PIPE

1/Looking downstream.
2/Check especially at downstream face of embankments.

5. VEGETATION

	Dam	Emergency Spillways left	Emergency Spillways right 1/	Dike	Outlet Channel	Water way	Other (_____)
Condition of stand (including need for lime and fertilizer)	1	—	1	—	NA	—	—
Undesirable vegetation	3	—	2	—	1	—	—
Drainage (surface)	NA	—	1	—	NA	—	—
Erosion 2/	1	—	1	—	1	—	—
Sedimentation	1	—	1	—	1	—	—
Condition of planting	NA	—	NA	—	NA	—	—
Pest control	—	—	—	—	—	—	—
Fire control	—	—	—	—	—	—	—

COMMENTS POPLARS GROWING ON DAM

6. EMBANKMENT, STRUCTURAL, & OTHER DRAINS

		Dam left	Dam right 1/	Other (_____)	Other (_____)
Depth of Flow (in inches above invert)	With any obstruction	-	-	—	—
	Without any obstruction	0	0	—	—
Turbidity of Discharge (yes, no)	With any obstruction	-	-	—	—
	Without any obstruction	NO	NO	—	—
Condition of Protective Coating	Outside	1	1	—	—
	Inside	1	1	—	—
Obstruction in Flow (yes, no)		NO	NO	—	—
Animal Guard Condition		1	1	—	—
Outlet Condition		1	1	—	—

Retarding Pool Elevation (ft. msl)_____ or_____(ft.) above / below _____

Other_____

COMMENTS_____

1/Looking downstream.
2/Including: wave, surface, stream, manmade, and livestock erosion.

7. RISER

Caution Be extremely careful when using ladders. Check condition before using. Ladders are sometimes broken, loose, corroded, and or slippery.
Use safety harness.

Ladders: inside and out	Condition of protective coating___; Corrosion___; Damaged parts___; Loose___; Other___.
Concrete: inside and out	Cracking___; Spalling___; Other deterioration ___; Excessive movement (check joint at riser and conduit)___; Other___.
Trashracks: low and high stage	Condition of protective coatings___; Corrosion ___; Damaged parts___; Condition of fastenings ___; Need of gratings due to beaver___; Safety condition (protruding fastenings, sharp edges, etc.)___; Other___.
Manhole:	Condition of protective coatings___; Corrosion ___; Damage___; Lock operable___; Other___.
Gate: including lifting device, stem, guides, disc	Condition of protective coating___; Corrosion ___; Damaged parts___; Condition of fastenings___; Stem alignment___; Lubrication___; Operation___; Other___.
Safety Items:	Condition of warning signs___; Condition of safety equipment___; Other___.

COMMENTS WRA WILL CHECK RISER & APPURTENANCES AT LATER DATE

IMPACT BASIN, SAF, BOX INLET, & MISCELLANEOUS CONCRETE STRUCTURES

(specify) CRADLE

Concrete: inside and out	Cracking /; Spalling /; Other deterioration /; Excessive movement (check joints)___; Waterstops___; Joint sealant___; Other___.
Trashracks: low and high stage	Condition of protective coatings___; Corrosion ___; Damaged parts___; Condition of fastenings___; Need of gratings due to beaver___; Safety condition (protruding fastenings, sharp edges, etc.)___; Other___.
Gates: including lifting device, stem, guides, disc, flap	Condition of protective coating___; Corrosion ___; Damaged parts___; Condition of fastenings___; Stem alignment___; Operation___; Lubrication___; Wood decay___; Other___.
Structure Drainage:	Report under "Embankment and Other Drains"
Structure, Railing, Grates, Barriers, etc.	Condition of protective coating___; Corrosion ___; Damaged parts___; Condition of Fastenings___; Wood decay___; Safety condition (protruding fastenings, sharp edges, etc.) ___; Other___.
Safety Items:	Condition of warning signs___; Condition of safety equipment___; Other___.

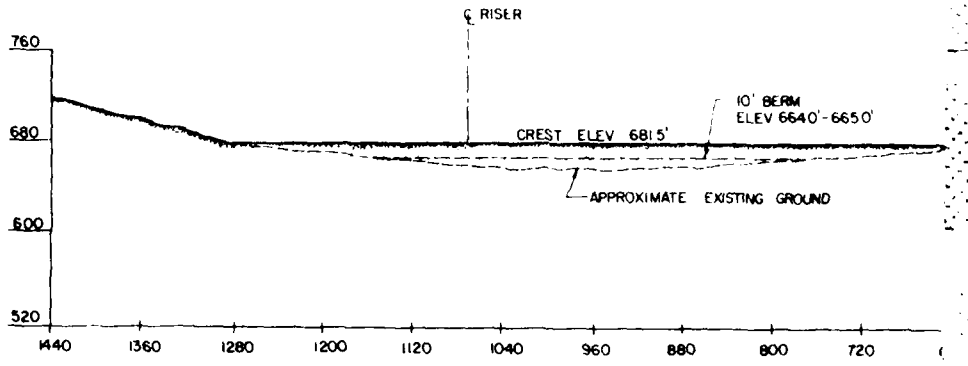
COMMENTS _____

9. CHANNEL

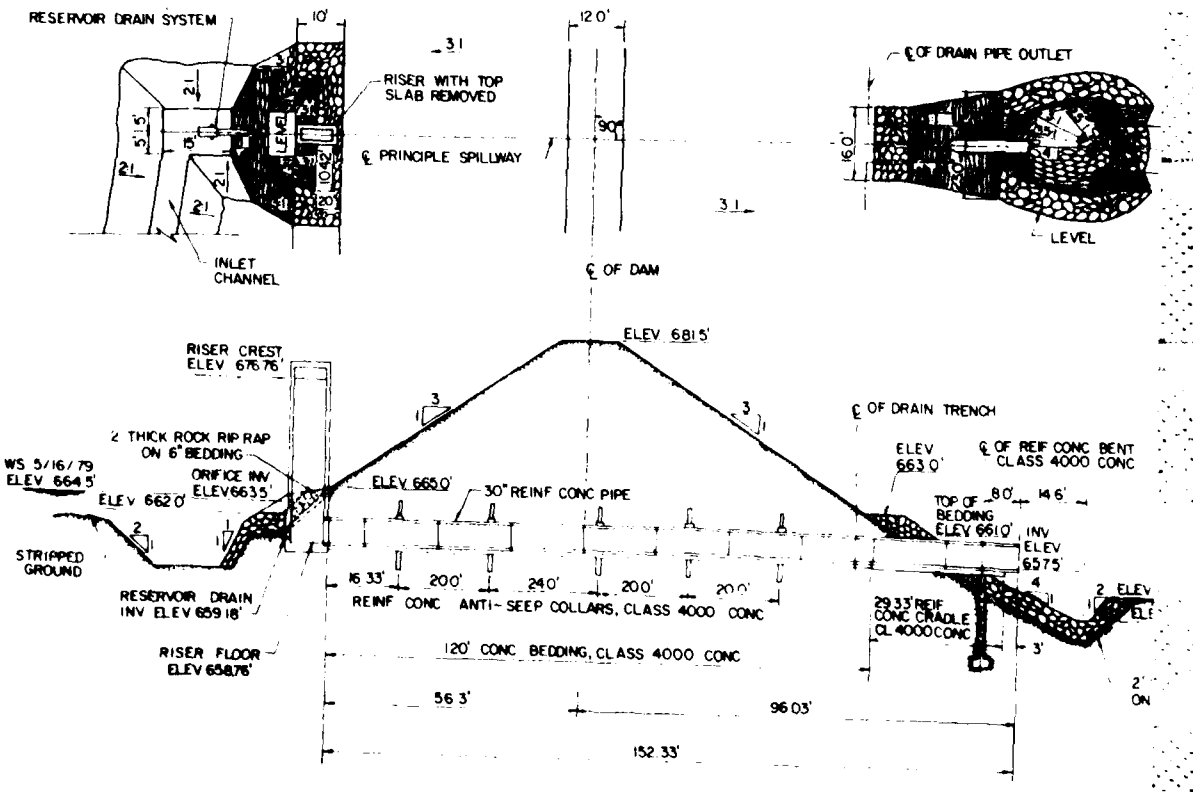
Stream obstructions.	3
Debris in stream.	/
Sediment bars controlled.	/
Plunge pool stability.	/
Fish habitat appurtenances	___

Riprap -- Report under "Riprap" (item 4)

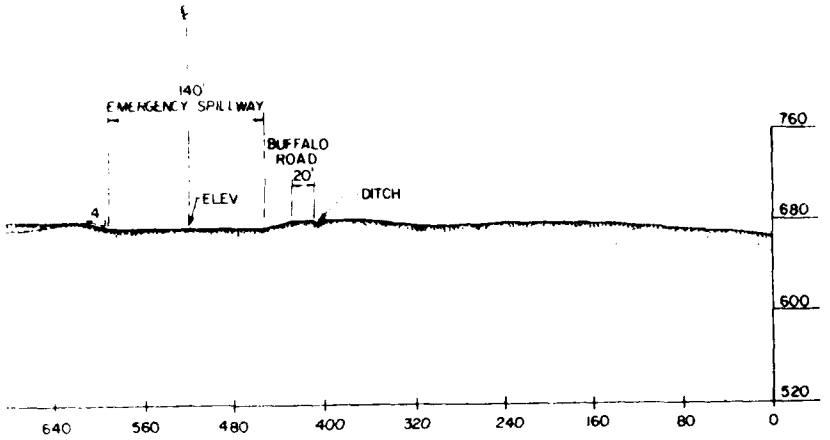
COMMENTS REMOVE "CAT-O-NINE TAILS" FROM CHANNEL



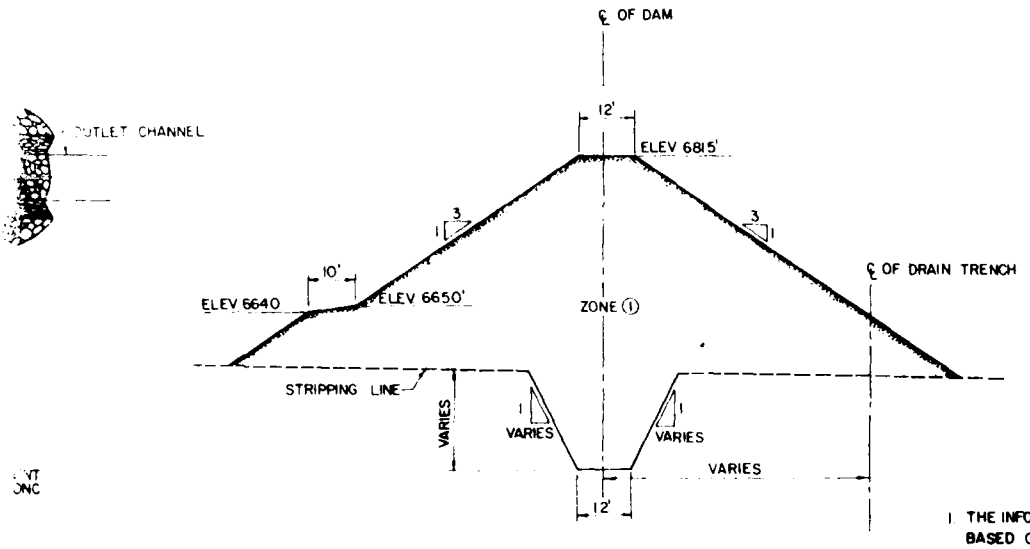
SECTION A-A



SECTION B-B



A



SECTION C-C

ELEV 6545'
ELEV 6518'

2' THICK ROCK RIP RAP ON 6" BEDDING

1. THE INFORMATION SHOWN ON THESE DRAWINGS IS BASED ON THE ORIGINAL CONSTRUCTION PLANS AND VISUAL OBSERVATIONS MADE DURING THE FIELD INSPECTION. DIMENSIONS OR MATERIALS INDICATED ON THESE DRAWINGS WHICH WERE BELOW GRADE OR WATER DURING THE TIME OF INSPECTION WERE NOT VERIFIED.
2. THE ELEVATIONS SHOWN ARE 1929 MSL DATUM.

EARTH FILL REQUIREMENTS			
ZONE	MATERIAL	REQUIRED WATER CONTENT	COMPACTION DEFINITION
1	SILTY FINE TO MEDIUM FINE	-1% OF OPTIMUM TO +3% OF OPTIMUM	95% MAXIMUM DENSITY BY ASTM D698 METHOD A

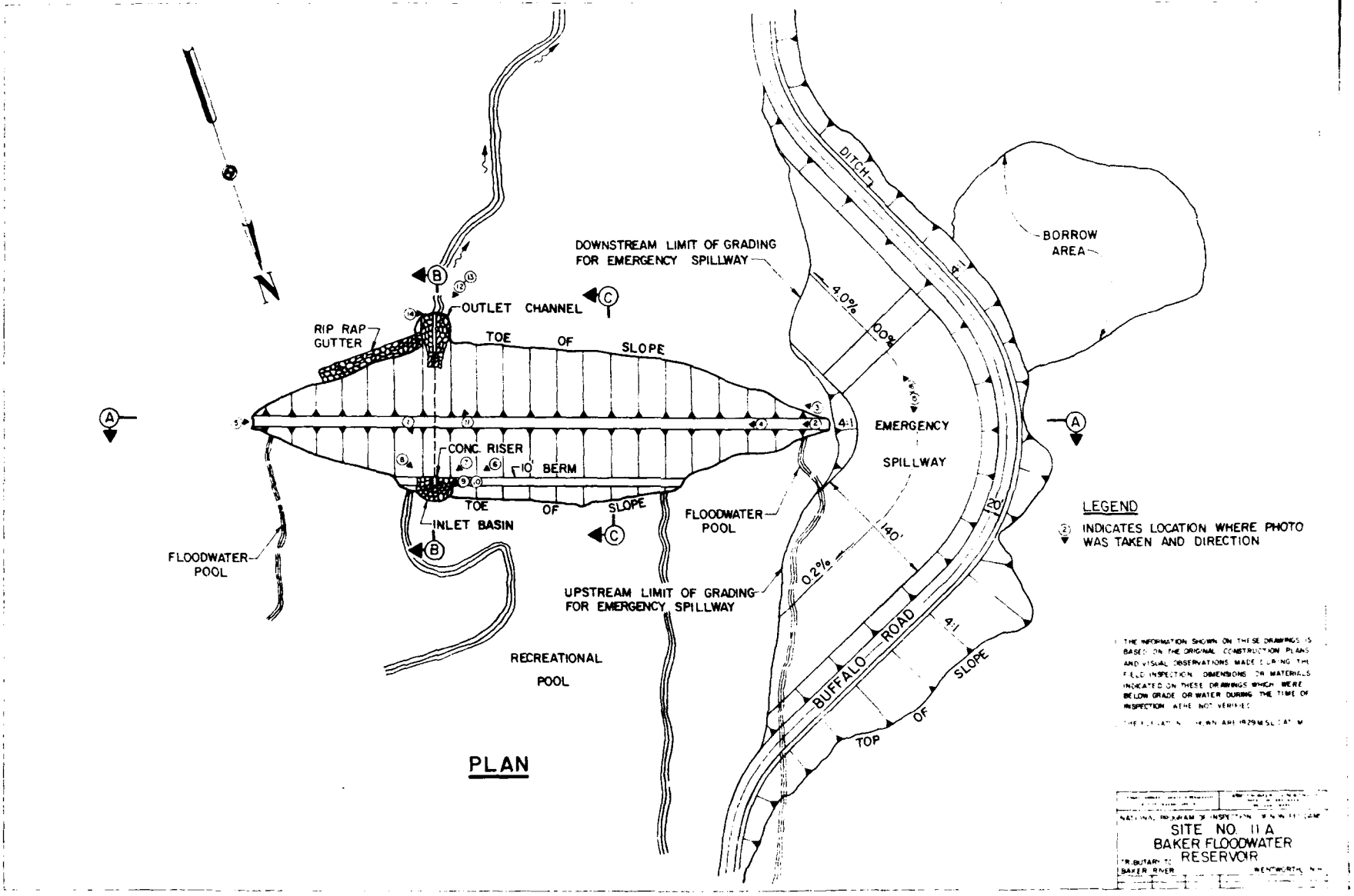
US ARMY ENGINEER DIV NEW ENGLAND

NATIONAL PROGRAM OF INSPECTION OF NON-FED DAMS

SITE NO. 11A
BAKER FLOODWATER RESERVOIR

TRIBUTARY TO BAKER RIVER — WENTWORTH, NH

Figure 2 of 2


N
DOWNSTREAM LIMIT OF GRADING FOR EMERGENCY SPILLWAY
OUTLET CHANNEL
RIP RAP GUTTER
TOE OF SLOPE
CONC. RISER
10' BERM
INLET BASIN
TOE OF SLOPE
FLOODWATER POOL
FLOODWATER POOL
UPSTREAM LIMIT OF GRADING FOR EMERGENCY SPILLWAY
RECREATIONAL POOL
DITCH
BORROW AREA
4.0%
0.0%
4:1
EMERGENCY SPILLWAY
140'
120'
0.2%
4:1
BUFFALO ROAD
TOP OF SLOPE
LEGEND
(2) INDICATES LOCATION WHERE PHOTO WAS TAKEN AND DIRECTION
THE INFORMATION SHOWN ON THESE DRAWINGS IS BASED ON THE ORIGINAL CONSTRUCTION PLANS AND VISUAL OBSERVATIONS MADE DURING THE FIELD INSPECTION. DIMENSIONS OR MATERIALS INDICATED ON THESE DRAWINGS WHICH WERE BELOW GRADE OR WATER DURING THE TIME OF INSPECTION WERE NOT VERIFIED.
NATIONAL PROGRAM OF INSPECTION OF NON-FEDERAL DAMS
SITE NO. 11 A
BAKER FLOODWATER RESERVOIR
TRIBUTARY TO
BAKER RIVER
WENTWORTH, N.H.

PLAN

APPENDIX C

PHOTOGRAPHS

FOR LOCATION OF PHOTOS, SEE FIGURE 1
LOCATED IN APPENDIX B

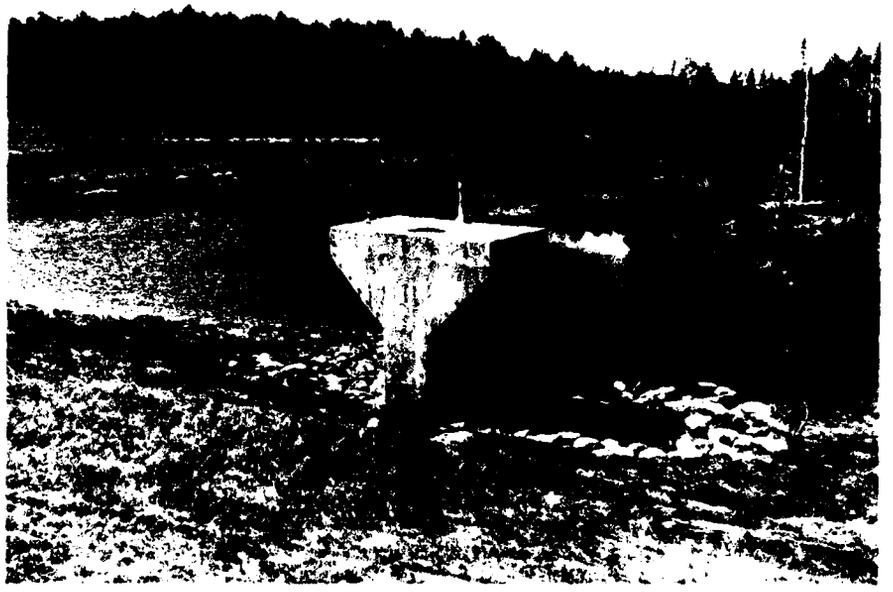


PHOTO NO. 1 - View of reservoir area from dam.

PHOTO NO. 2 - View of upstream face of dam from right abutment.

PHOTO NO. 3 - View of downstream face of dam from right abutment.

PHOTO NO. 4 View of dam crest from right abutment.

PHOTO NO. 5 - View of dam crest from left abutment.

PHOTO NO. 6 - View of principal spillway and riser.

PHOTO NO. 7 - View of right side of principal spillway.

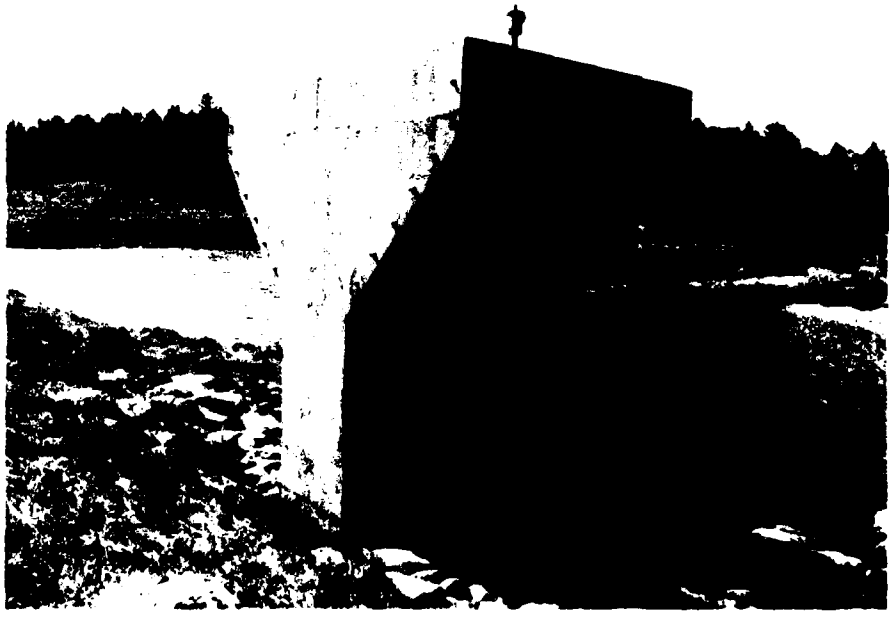


PHOTO NO. 8 - View of left side of principal spillway.

PHOTO NO. 9 - View of low stage intake trash rack.

PHOTO NO. 10 - View of high stage trash rack.

PHOTO NO. 11 - View of outlet works and discharge channel from dam.

PHOTO NO. 12 - View of outlet works and foundation drain pipes.

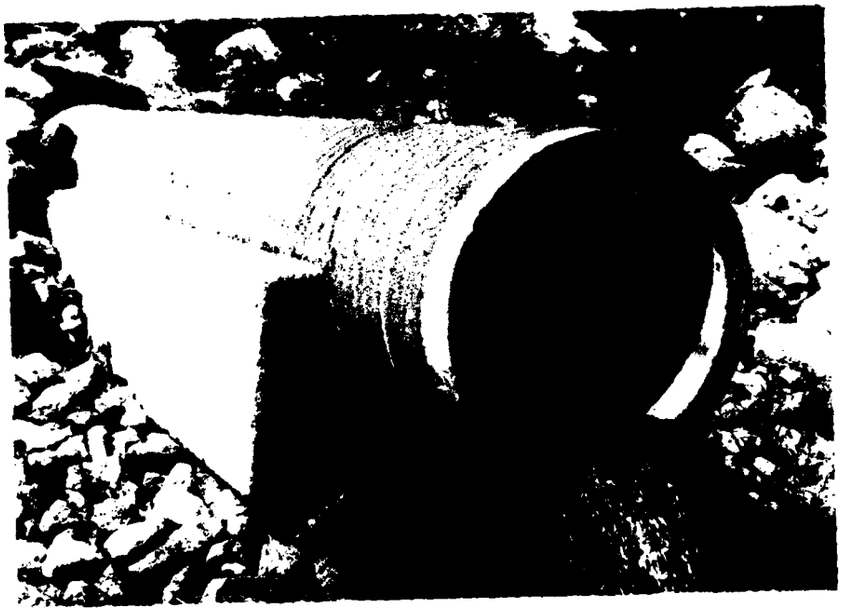


PHOTO NO. 13 - Close up view of discharge pipe.

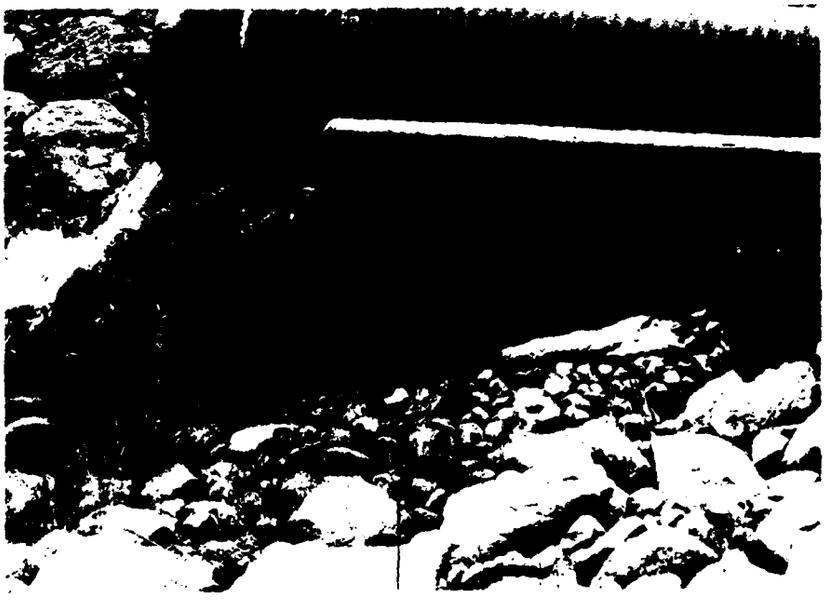


PHOTO NO. 14 - Close-up view of discharge pipe support structure.

PHOTO NO. 15 - Upstream end of emergency spillway as seen from axis of dam.

PHOTO NO. 16 - Downstream end of emergency spillway as seen from axis of dam.

APPENDIX D

HYDROLOGIC AND HYDRAULIC COMPUTATIONS

HNTB HOWARD NEEDLES TAMMEN & BERGENDOFF	Made by RY	Date 6/18/79	Job No 5965-11-08
	Checked by HM	Date 7/2/79	Sheet No 1
For Baker River Dam #11A			

Hydraulics & Hydrology

Baker River Dam Site No. 11A: Located on a tributary to the Baker River in the Town of Wentworth, N.H. in the Merrimack River Basin.

Classification: Size Small
Hazard High

Basic Data: Drainage Area: 1.05 sq mi
Upstream Basin: Mountainous 774 ft/mi

Reservoir: Normal Pool: elev-664.0
Stor.- 9 acre-ft
Emer. Spillway elev. 671.5
Stor 25?.0
Top of Dam elev 671.5
Stor 355 acre-ft

Dam: Earth
Length 640 ft
Height ~24 ft
Spillways Riser Crest 676.76 ft
Length of Crest 15 ft
Emer. Spillway Crest 678.5
Width 140 ft.

See Appendix B for Plan of Dam

HNTB HOWARD NEEDLES TAMMEN & BERGENDOFF	Made by RY	Date 6/18/79	Job No 5965-11-08
	Checked by HL	Date 7/ /79	Sheet No 2
For Baker #11A			

Step 1 Calculation of Test Flood Inflow

Classification Size Small
Hazard High

Hydrologic Guideline Recommends

1/2 PMF to PMF

use 1/2 PMF as

Height 24 feet in mid-range of classification range of 10 to 40 feet and Hazard is on lower range of range - 4 dwellings affected.

Use Mountainous Curve PMF 3000 CSM (max recommended value)

Test Flood Inflow = 3000 CSM x 1.05 sq mi x 1/2 = 1580

As this is a flood control reservoir the portion of the storage above the normal pool can be used to store a portion of the PMF

Storage @
9 acre-ft normal pool
238 acre-ft @ crest of emergency spillway
229 acre-ft available for storage of PMF.

Volume of 1/2 PMF = 19"/12 in/ft x 640 acres/mi² x 1.05 mi² x 1/2 = 532 ac-ft

HNTB HOWARD NEEDLES TAMMEN & BERGENDOFF	Made by RY	Date 6/18/79	Job No 5965-11-08
	Checked by HH	Date 7/[illegible]/79	Sheet No 3
For Baker #11A			

Step 2 Calculation of Test F Surcharge

Stage-Discharge Curve

Elev.	ft. above Emerg. Spillway	A Riser Pipe Flow	B Emergency Spillway	C Crest of Dam	Total
676.5	0	98			98
679.33	.83	99	100		199
679.95	1.45	101	300		401
680.58	2.08	102	600		702
681.08	2.50	104	900		1004
681.14	2.64	104	1000		1104
682.28	3.78	107	2000	1362	3469
683.18	4.68	109	3000	4307	7416

A. From Baker River Dam #11A Design Book, SCS, Durham, N.H. See copies of the Cales. at the end of this section.

B. Same As "A"

C. Computed as flow over a broadcrested weir crest of Dam at 681.5

$Q = CLH^{3/2}$

$C = 3.09$

$L = 640$ ft

$Q = 1978 H^{3/2}$

Ht top of dam 1169
105
1274

See fig 2 for plot

HNTB HOWARD NEEDLES TAMMEN & BERGENDOFF	Made by RY	Date 6/19/79	Job No 5965-11-08
	Checked by	Date	Sheet No 4
For Baker #11A			

Step 3 Estimate of Surcharge - Storage Effect

Q_{P_1} = 1580 cfs Runoff = 9.5 inches

$$Q_{P_2} = Q_{P_1} \times \left(1 - \frac{Stor}{9.5}\right)$$

Stor in acre-ft, read from Figure 1 - 9.0 acre-ft

$$Stor(in) = \frac{Stor\ acre\text{-}ft \times 12\ in/ft}{1.05\ mi^2 \times 640\ acre/mi^2} = .0179(Stor_{ac\text{-}ft})$$

Elev.	Stor (acre-ft)	Stor (in)	Q_{P_2}
680	285	5.10	731 cfs
681	326	5.84	609
682	366	6.55	490
683	408	7.30	365

See Figure 2 for Plot and Final outflow

From Figure 2 Outflow 670 cfs

Stage 2.0 ft above spillway crest

elev. 680.5

Freeboard = 1.0 ft.

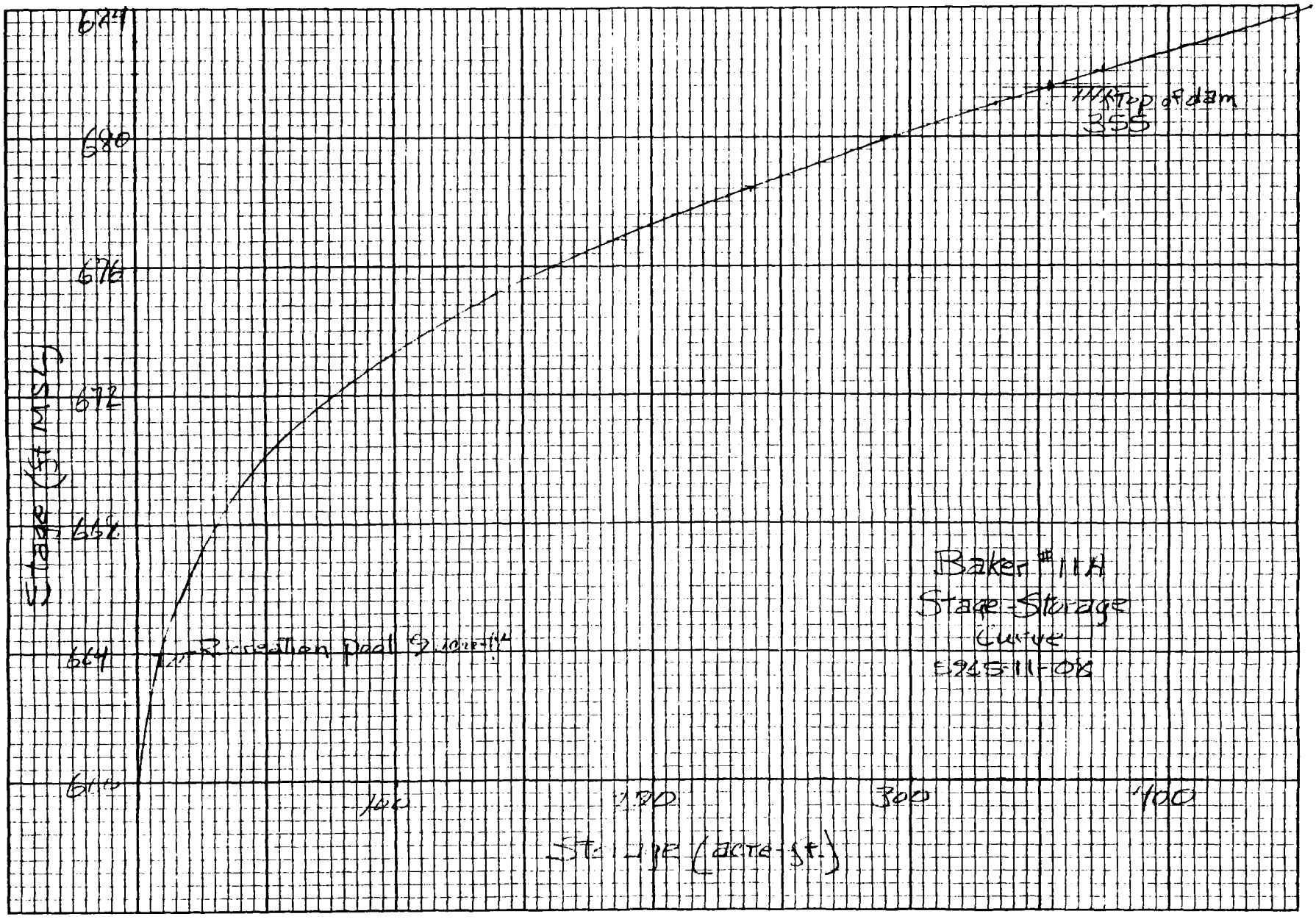
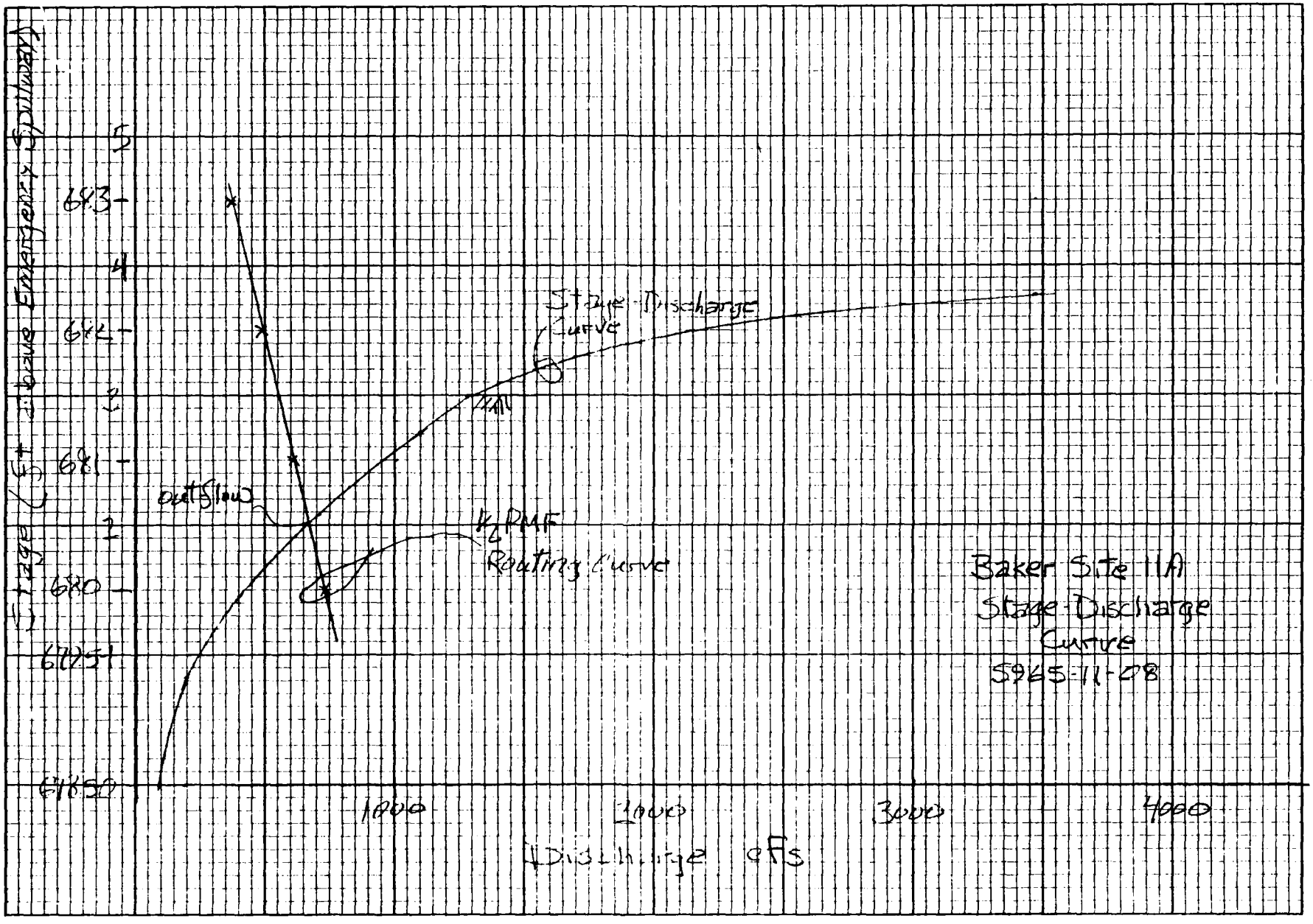


Figure 1



Figure

HNTB HOWARD NEEDLES TAMMEN & BERGENDOFF	Made by RY	Date 5/25/79	Job No 5965-11-08
	Checked by HJ	Date 7/19/79	Sheet No 5
For Baker #11A			

Estimate of Downstream Damage

Step 1 Reservoir Storage

at top of dam – Elev. 681.5 ft
Storage 355 acre-ft.

Step 2 Breach Outflow

$$Q_{Breach} = 8/27 \sqrt{g}\, w_o\, Y_o^{3/2}$$

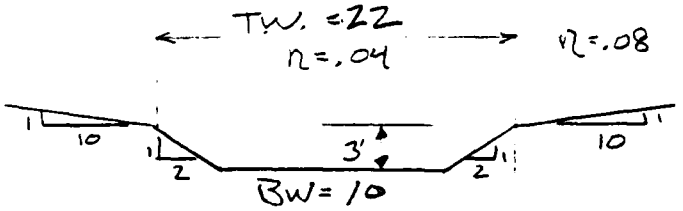
w_o = 40% of the total length of dam

Y_o = height-stream bed to max pool elevation. 24 ft

Breach Outflow $8/27(5.67)(.40)(640)(24)^{3/2} = 50{,}600$ cfs
Spillway Discharge 1274

Say $Q_{P1} = 51{,}900$ cfs

Step 3 Downstream Stage-Discharge



Reach Length = 6000 ft.

$S_{Channel} = .02\frac{1}{1}$

$n_{ch} = .04$

$n_{OB} = .08$

Stage - Discharge

5 ft	1320 cfs
7	3000
9	5690
12	12,090
15	21,870
18	35,620
21	53,870

HNTB HOWARD NEEDLES TAMMEN & BERGENDOFF	Made by RY	Date 5/24/79	Job No 5965-11-08
	Checked by HK	Date -/-/-	Sheet No 6
For Baker #11A			

Step 4 Downstream Stage $S = 355$ acre ft

$Q_{p_1} = 51{,}900$ cfs Length 6000 ft

Stage, 20.8 ft area$_1$ = 3600 ft^2

1A
1900 ft of 6000 ft

$$V_1 = \frac{3600\text{ ft}^2 \times 1900\text{ ft}}{43560\text{ ft}^2/\text{acre}} = 157\text{ acre-ft} \leq \frac{355}{2}$$

Reach length OK

$$Q_{P_{2\,trial}} = 51{,}900\left(1 - \frac{157}{355}\right) = 28{,}950\text{ cfs}$$

Stage$_2$ = 16.7 ft area$_2$ = 2226 ft^2

$$V_2 = \frac{2226 \times 1900}{43560} = 97\text{ acre ft}$$

$V_{ave} = 127$ acre ft

$$Q_{P_2} = 51{,}900\left(1 - \frac{127}{355}\right) = 33{,}330\text{ cfs}$$

Stage$_1$ = 17.6 ft area$_1$ = 2500 ft^2

1B
1 mile 2000 ft
to 6000 ft

$$V_1 = \frac{2500 \times 2000}{43560} = 115\text{ acre ft}$$

$$Q_{P_{2\,trial}} = 33{,}330\left(1 - \frac{115}{355}\right) = 22{,}550\text{ cfs}$$

Stage$_2$ = 15.2 ft area$_2$ = 1805 ft^2

$$V_2 = \frac{1805 \times 2000}{43560} = 83\text{ acre ft}$$

$V_{ave} = 99$ acre ft

$$Q_{P_2} = 33{,}330\left(1 - \frac{99}{355}\right) \quad 24{,}030\text{ cfs}$$

Stage = 15.6 ft

HNTB HOWARD NEEDLES TAMMEN & BERGENDOFF	Made by RY	Date 5/24/79	Job No. 5965-11-08
	Checked by HM	Date 7/19/79	Sheet No 7
For Baker II A			

$Q_{P_1} = 24{,}100$ cfs

$\text{Stage}_1 = 15.6$ ft $\text{area}_1 = 1913$ ft²

1C

Third 2000 ft of 6000 ft

$$V_2 = \frac{1913 \times 2100}{43560} = 92.0 \text{ acre-ft}$$

$$Q_{P_2 \text{ trial}} = 24{,}030\left(1 - \frac{92}{355}\right) = 17{,}800 \text{ cfs}$$

$\text{Stage}_2 = 13.9$ ft $\text{area}_2 = 1475$ acre ft

$$V_2 = \frac{1475 \times 2100}{43560} = 71. \text{ acre-ft}$$

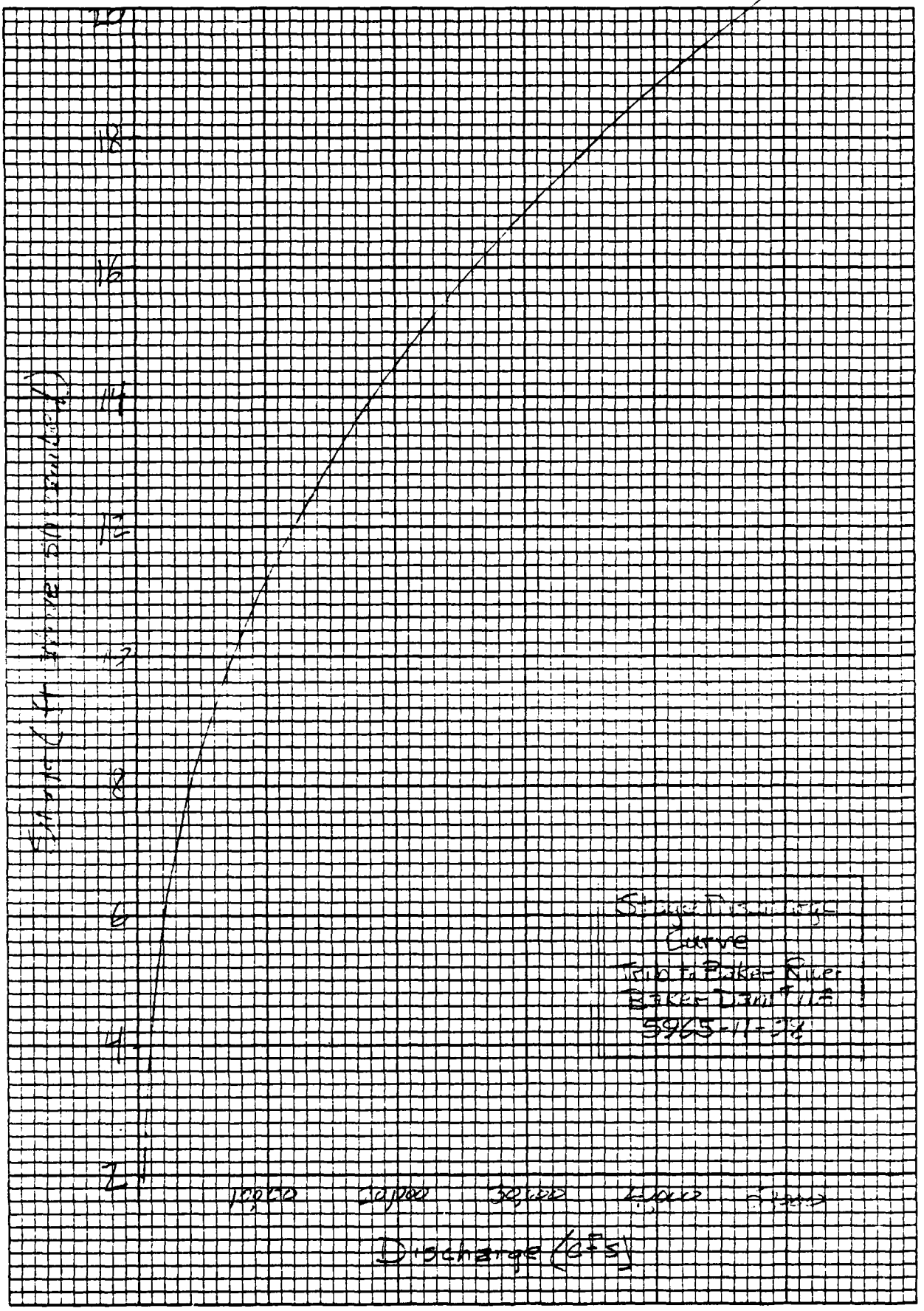
$V_{ave} = 81.5$ acre-ft

$$Q_{P_2} = 24{,}030\left(1 - \frac{81.5}{355}\right) = 18{,}500 \text{ cfs}$$

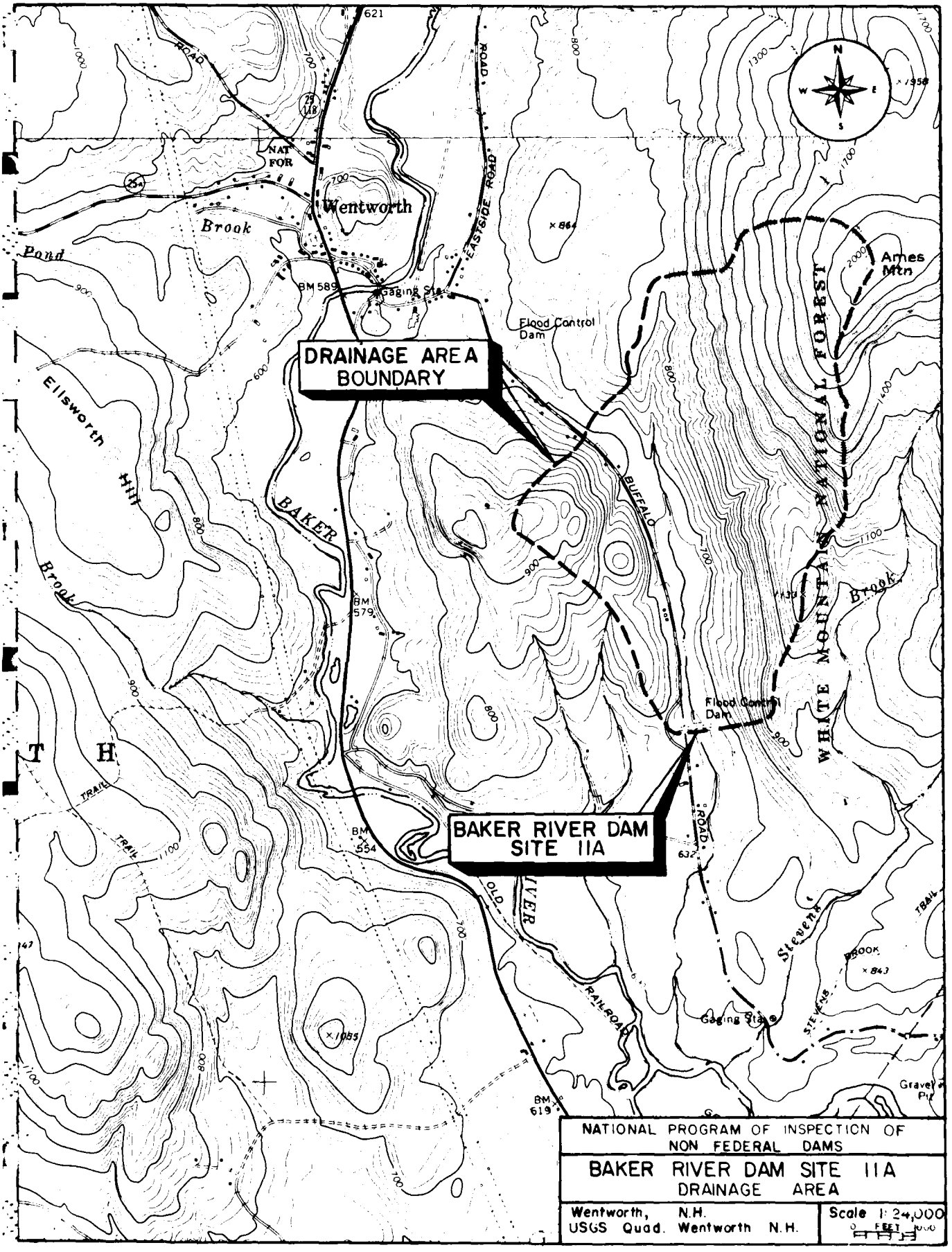
$\text{Stage} = 14.1$ ft

Summary

Reach	Stage
At Dam	20.7 ft
Near Buffalo Rd u.s. side	17.6 ft
1700 ft d.s. of Buffalo Rd.	15.5 ft
At confluence w/ Baker River 6000' d.s.	14.1 ft



10X10 TO THE INCH

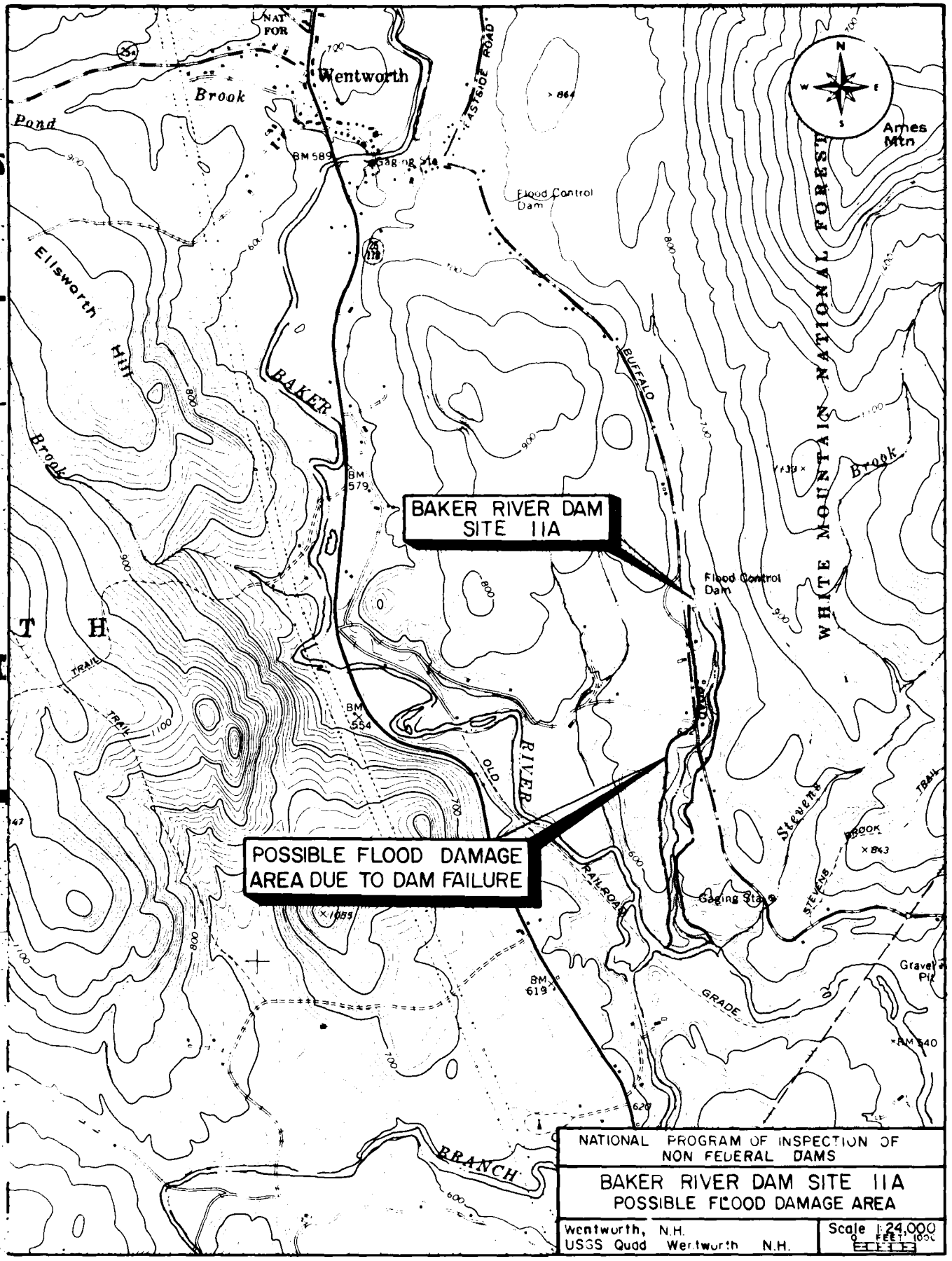


NATIONAL PROGRAM OF INSPECTION OF NON FEDERAL DAMS

BAKER RIVER DAM SITE 11A
DRAINAGE AREA

Wentworth, N.H.
USGS Quad. Wentworth N.H.

Scale 1:24,000



NATIONAL PROGRAM OF INSPECTION OF
NON FEDERAL DAMS

BAKER RIVER DAM SITE IIA
POSSIBLE FLOOD DAMAGE AREA

Wentworth, N.H.
USGS Quad Wentworth N.H.

Scale 1:24,000
0 FEET 1000

NEW HAMPSHIRE | SITE IIA - [illegible] W/S
By KMMcP | 5-17-69 | Checked By [illegible] | Job No. [illegible] 339
Subject WORK PLAN - DESIGN COMPARISON | Sheet 3 of [illegible]

ITEM	UNIT	WORK PLAN	[illegible]	[illegible]
DRAINAGE AREA	SQ MI	1.05	1.05	
STORAGE CAPACITY				
SEDIMENT (INC AERATED)	AC FT	13	[illegible]	
BENEFICIAL	AC FT	0	0	[illegible]
RETARDING	AC FT	207	225	[illegible]
TOTAL	AC FT	220	253	[illegible]
BETWEEN HIGH & LOW S	AC FT	154	170	[illegible]
SURFACE AREA				
NORMAL POOL	ACRE	2	4.25	[illegible]
RETARDING POOL	ACRE			
DESIGN HIGH WATER	ACRE	32	[illegible] 5.0	[illegible]
VOLUME OF FILL	CU YD	15,347	[illegible]	[illegible]
TOTAL DAM [illegible]	FEET	[illegible]1.0	[illegible]	[illegible]
[illegible]	FEET	[illegible]	[illegible]	"
EMERGENCY SPILLWAY				
[illegible]	FEET	[illegible]	[illegible]	[illegible]
BOTTOM WIDTH	FEET	[illegible]	[illegible]	
TYPE	—	EARTH	EARTH	
PERCENT CHANCE OF USE	—	1	1	
[illegible] NO 26 [illegible] II	—	23	15	
[illegible] HYDROGRAPH				
[illegible]	IN	7	7	
[illegible] RUNOFF	IN	[illegible]	[illegible]	[illegible]
VELOCITY OF FLOW - V	FPS	—	—	[illegible]
[illegible] DISCHARGE RATE	CFS	—	—	"
MAX WATER SURFACE EL.	FEET	[illegible]	[illegible]	[illegible]
[illegible] HYDROGRAPH				
STORM RAINFALL - 6 HR	IN	10.5	[illegible]	
STORM RUNOFF	IN	5.26	[illegible]	[illegible]
VELOCITY OF FLOW - V	FPS	5.5	[illegible]	[illegible]
PEAK DISCHARGE RATE	CFS	[illegible]	[illegible]	"
MAX WATER SURFACE EL.	FEET	[illegible]	[illegible]	[illegible]
PRINCIPAL SPILLWAY				
RISER SIZE	FT	2.50 x 7.50	[illegible]	[illegible]
MAX LOW STAGE FLOW	CFS	[illegible]	[illegible]	[illegible]
ORIFICE SIZE	FT	[illegible]	[illegible]	[illegible]
MAX HIGH STAGE FLOW	CFS	74	[illegible]	[illegible]
PIPE SIZE	DIA	30 IN	[illegible] IN	
CAPACITY EQUIVALENTS				
TOTAL SEDIMENT VOL.	IN	[illegible]	[illegible]	
RETARDING STORAGE	IN	3.7	[illegible]	[illegible]
EM SPILLWAY STORAGE TO TOP OF DAM	IN	[illegible]	[illegible]	[illegible]
CLASS OF STRUCTURE	—	[illegible]	[illegible]	
CONSTRUCTION COSTS				
	—			
B-C RATIO	—			

WP-DC-1

Tabular Computations

SOIL CONSERVATION SERVICE

SITE [illegible] - BAKE[illegible]

[illegible]

[illegible]

ELEV	AREA IN^2	AREA FT^2	AREA ACRES	[illegible] AREA	AVE AREA	[illegible] ELEV	INCREMENT OF STORAGE	TOTAL STORAGE
[illegible]	0	0	0					0
				[illegible]	[illegible]	[illegible]	[illegible]	
660	0.20	18,000	0.41					[illegible]
				[illegible]	[illegible]	4.[illegible]	8.92	
664	1.9[illegible]	116,400	4.05					[illegible]
				10.87	[illegible]	[illegible]	[illegible]	
668	5.20	597,000	6.82					21.07
				[illegible]	11.[illegible]	4.[illegible]	[illegible]	
672	7.54	678,[illegible]	15.5[illegible]					[illegible]
				[illegible]	[illegible]	[illegible]	[illegible]	
676	13.32	1,193,[illegible]	27.[illegible]					[illegible]
				[illegible]	[illegible]	4.[illegible]	[illegible]	
[illegible]	17.64	1,587,600	36.45					[illegible]
				[illegible]	[illegible]	4.[illegible]	162.[illegible]	
[illegible]	21.70	1,953,000	44.84					153.59

Tabular Computations

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SITE 11A - BALEY RIVER WATERSHED

AVAILABLE FLOOD STORAGE

ELEV	TOTAL STORAGE AC-FT	SUB. SED. VOLUME AC-FT	RELATED SED. VOLUME AC FT	TOTAL VOLUME OF SED. AC-FT	VOLUME OF AVAILABLE FLOOD STORAGE AC-FT			
664.00	9.33	9.33	0	9.33	0			
			1.40					
668.0	21.07	9.33	1.40*	10.73	30.34			
			1.30					
672.0	75.51	9.33	2.70*	12.03	63.48			
			0.77					
675.5	147.40	9.33	3.67*	13.00	134.40			
676.0	162.07	9.33	3.67*	13.00	149.07			
680.0	290.01	9.33	3.67*	13.00	277.01			
684.0	452.91	9.33	3.67	13.00	439.91			

Tabular Computations

SOIL CONSERVATION SERVICE

STATE N.H.	PROJECT [illegible] - BAKER RIVER W/S			
BY [illegible]	DATE 2-19-69	CHECKED BY	DATE	JOB NO NH [illegible]
SUBJECT ELEV OF EMERGENCY SPILLWAY CREST & DESIGN AT [illegible]				SHEET [illegible] OF

SUBMERGED SEDIMENT — [illegible]

AERATED SEDIMENT — 5.67 AC. FT.

2.4 IN. OF RUNOFF - LOW STAGE STORAGE — [illegible].40 AC. FT.

1.3 IN. OF RUNOFF - HIGH STAGE STORAGE — [illegible] AC. FT.

TOTAL STORAGE TO CREST OF EMERGENCY SPILLWAY — [illegible] AC. FT.

FROM STAGE STORAGE CURVE [illegible] AC. FT. OF STORAGE AT ELEV. 67[illegible].00

THE TOTAL RUNOFF OF 3.70 INCHES IS STORED AS FLOOD STORAGE BETWEEN THE LOW STAGE ORIFICE CREST (EL. [illegible]) AND ELEV. 675.00, THE REQ'D CREST ELEVATION OF THE EMERGENCY SPILLWAY.

THE CREST OF THE EMERGENCY SPILLWAY WAS [illegible] TO STORE THE EMERGENCY SPILLWAY HYDROGRAPH AS REQ'D BY THE [illegible]. THIS ALSO PROVIDES FOR SOME OF THE HIGH STAGE STORAGE LOST BY RAISING THE HIGH STAGE CREST. REVISED CREST ELEV. 678.[illegible]

SITE 11 A - [illegible] WATERSHED

LOW STAGE DISCHARGE

℄ OF DAM AT ℄ + 50

ELEV	STAGE	LOW STAGE WEIR $Q = 3.62 H_{LW}^{3/2}$			LOW STAGE ORIFICE $Q = 3.14 H_{LO}^{1/2}$		
		H_{LW}	$H_{LW}^{3/2}$	Q_{LW}	H_{LO}	$H^{1/2}$	Q_{LO}
664.00	0	0	0	0			
664.10	0.10	0.10	0.0316	0.11			
664.25	0.25	0.25	0.1250	0.45	0	0	0
664.40	0.40	0.40	0.2530	0.92	0.15	0.3873	1.20
[illegible]	0.50	0.50	0.3536	1.28	0.25	0.5000	1.57
664.60	0.60	0.60	0.4648	1.[illegible]	0.35	0.5916	1.86
664.65	0.65	0.65	0.5307	2.03	0.43	0.6557	2.06
664.69	0.69	0.69	0.5732	2.07	0.44	0.6633	[illegible]
664.70	0.70	0.70	0.5857	2.12	0.45	0.6708	2.11
[illegible]	0.80	[illegible]	0.7155	2.59	[illegible]	0.7416	[illegible]
665.00	1.00	1.00	1.00	[illegible]	0.75	0.8660	[illegible]
665.50	1.50				1.25	1.1180	3.51
666.00	2.00				1.75	1.32[illegible]	4.15
667.00	3.00				2.75	1.655[illegible]	[illegible]
668.00	4.00				3.75	1.936[illegible]	[illegible].08
[illegible]	5.00				4.75	2.179[illegible]	[illegible].84
670.00	6.00				[illegible]	2.3979	7.53
671.00	7.00				6.75	2.5981	8.16
[illegible]	8.00				7.75	2.78[illegible]	[illegible].74
[illegible]	9.00				8.75	2.9580	9.29
[illegible]	[illegible]				9.75	3.122[illegible]	9.80
[illegible]	[illegible]				10.75	3.2787	10.30
[illegible]	11.5				11.25	3.35[illegible]	[illegible].53
[illegible]	[illegible]				11.75	3.42[illegible]	[illegible].76
676.25	12.25				[illegible]	3.4641	[illegible]
676.30	[illegible]				12.05	3.47[illegible]	[illegible].90
676.40	12.40				[illegible]	3.48[illegible]	[illegible].94
676.50	12.50				12.25	[illegible]	[illegible]

U. S. GOVERNMENT PRINTING OFFICE: 19[illegible]

SITE 11A - EAGLE RIVER WATERSHED

LOW STAGE DISCHARGE

℄ OF DAM AT STA [illegible]+50

ELEV	STAGE	LOW STAGE ORIFICE						$Q_{L.S.}$
		[illegible]	[illegible]	[illegible]				
676.50	13.[illegible]	12.55	3.5426	11.12				[illegible].12
676.[illegible]	12.88	12.63	3.5535	11.16				11.16
677.00	13.00	12.75	3.5707	11.31				11.[illegible]
677.20	13.20	12.95	3.5756	11.30				[illegible].30
677.40	13.40	13.15	3.6262	[illegible]				[illegible].39
677.50	13.50	13.25	3.6[illegible]0	11.[illegible]				[illegible].45
678.00	14.00	13.75	3.7081	11.64				11.6[illegible]
678.05	14.05	13.80	3.7142	[illegible]				[illegible]
678.10	14.10	13.85	3.7215	11.[illegible]				[illegible]
678.1[illegible]	14.15	[illegible]	3.7723	11.71				[illegible]

U. S. GOVERNMENT PRINTING OFFICE: 1959 O - [illegible]

SITE [illegible]

BAKER RIVER WATERSHED

EMERGENCY SPILLWAY COMPUTATIONS

b = 144' L = [illegible] n = 0.04 [illegible] 4:1 ELEV 679.[illegible]

[illegible]

q	dx FROM ES 124 [illegible]	$\frac{V^2}{2g}$ FROM ES 139	Hp $\frac{V^2}{2g}$ + dx	Q EM. SPWY CFS	Vc ES 98 1 of 4 FPS	Sc ES 98 3 of 4		
0	0	0	0					
1	1.01	0	1.01	149	3.15	0.0347		
2	1.37	0	1.37	290	4.[illegible]	0.02[illegible]		
3	1.61	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
4	1.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
5	2.1[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
6	2.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
8	[illegible]	[illegible]	[illegible]	[illegible]	6.37	[illegible]		
10	3.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
15	[illegible]	[illegible]	[illegible]	[illegible]	7.[illegible]	[illegible]		
20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
30	5.1[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
35	5.61	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]57		
40	6.05	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
50	6.75	[illegible]	[illegible]	[illegible]	11.60	[illegible]		
60	[illegible]	[illegible]	[illegible]	[illegible]	12.[illegible]	[illegible]		
	Q = [illegible] CFS			[illegible] = [illegible]				
	[illegible]			[illegible] = [illegible]71				
ELEV	Hp	Q	[illegible]	V[illegible]				
679.[illegible]	1.4[illegible]	2[illegible]	[illegible]	[illegible]				
679.[illegible]	3.75	[illegible]	[illegible]	[illegible]	USE	[illegible] = 0.040		

SCS-347 5-57
Tabular Computations

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SHEET 1 of 2

DFS 3-2 67

SITE 112

Tabular Computations

SOIL CONSERVATION SERVICE

SITE 11A & DAM @ STA 52 EM. SPWY

NH 685

ELEV	PIPE FLOW Q = 23.30 H	H^1.5	Q	EM. SPWY Q	TOTAL Q			
681.14	19.23	4.495	104.81	[illegible]	1103.91			
683.28	21.03	4.553	106.35	[illegible]	2106.85			
683.15	21.13	4.583	109.11	[illegible]	3109.11			
683.20	21.75	4.685	109.16	[illegible]	3154.16			

SCS-319
6-58

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

11-22-6

NH-6E8

HYDROGRAPH COMPUTATION

EMERGENCY SPILLWAY HYDROGRAPH

WATERSHED OR PROJECT BAKER RIVER STATE N.H.

STRUCTURE SITE OR SUBAREA SITE 11A

DR. AREA 1.05 SQ. MI. T_c 1.8 HR. RUNOFF CONDITION NO. II

RUNOFF CURVE NO. 68 . STORM DISTRIB. CURVE B . HYDROGRAPH FAMILY NO. 3

1 x 7.0 = 0.952 x 7.0 =

STORM DURATION 6 HR. RAINFALL: POINT 7.0 IN. AREAL 6.66 IN.

$T_p = 0.7 T_c$

Q 3.14 IN. COMPUTED T_p 1.26 HR. T_o 4.45 HR..

($T_o + T_p$): COMPUTED 3.53 ; USED 4.0 . REVISED T_p 1.11 .

$q_p = \frac{484\ A}{REV.\ T_p}$ = 457.24 CFS. Qq_p = 1037.62 CFS.

t(COLUMN) = (t/T_p) REV. T_p. q(COLUMN) = $(q_c/q_p)\ Qq_p$.

LINE NO.	t HOURS	q CFS	LINE NO.	t HOURS	q CFS	LINE NO.	t HOURS	q CFS
1	6.00	0.00	21	7.99	7.63	41		
2	0.40	5.31	22	8.39	5.75	42		
3	0.80	63.26	23	8.79	2.00	43		
4	1.20	291.84	24	9.19	1.42	44		
5	1.60	575.05	25	9.59	0.00	45		
6	2.00	687.18	26			46		
7	2.40	646.93	27			47		
8	2.80	570.74	28			48		
9	3.20	491.67	29			49		
10	3.60	425.54	30	Σq_c = 5,398.73		50		
11	4.00	369.47	31	$Q = \frac{\Delta t\ (\Sigma q)}{645\ A}$		51		
12	4.40	336.40	32			52		
13	4.80	301.90	33	$Q = \frac{0.40 \times 5,398.73}{645 \times 1.05}$		53		
14	5.19	242.76	34			54		
15	5.59	159.56	35	$Q = \frac{2159.31}{677.25}$		55		
16	5.99	96.32	36			56		
17	6.39	53.19	37	Q = 3.19 "		57		
18	6.79	31.63	38			58		
19	7.19	20.13	39	$100 \times \frac{0.05}{3.14} = 1.59\ \%$		59		
	7.60	11.60						

SCS-319
6-58

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

11-29-6[illegible]
DPP
12-1-6[illegible]

NH-683

HYDROGRAPH COMPUTATION

FREEBOARD HYDROGRAPH

WATERSHED OR PROJECT [illegible] RIVER STATE N.H.

STRUCTURE SITE OR SUBAREA SITE 11A

DR. AREA 1.05 SQ. MI. T_c 1.8 HR. RUNOFF CONDITION NO. II

RUNOFF CURVE NO. 68 . STORM DISTRIB. CURVE B . HYDROGRAPH FAMILY NO. 3

7x1.5 =   0.952x10.5 =

STORM DURATION 6 HR. RAINFALL: POINT 10.5 IN. AREAL 10.0 IN.

$T_p = 0.7\ T_c$

Q 5.76 IN. COMPUTED T_p 1.26 HR. T_o 4.87 HR.

$(T_o + T_p)$: COMPUTED 3.87 : USED 4.0 . REVISED T_p 1.22 .

$q_p = \frac{484\ A}{REV.\ T_p}$ = 416.56 CFS. Qq_p = 2,488.70 CFS.

t(COLUMN) = (t/T_p) REV. T_p . q (COLUMN) = $(q_c/q_p)\ Qq_p$.

LINE NO.	t HOURS	q CFS	LINE NO.	t HOURS	q CFS	LINE NO.	t HOURS	q CFS
1	0.00	0.00	21	8.78	14.90	41		
2	0.44	7.45	22	9.22	9.93	42		
3	0.88	131.06	23	9.66	4.97	43		
4	1.32	[illegible]	24	10.10	2.48	44		
5	1.76	[illegible]	25	10.54	0.00	45		
6	2.20	[illegible]	26			46		
7	2.64	1,117.[illegible]	27			47		
8	3.07	[illegible].63	28			48		
9	3.51	[illegible]	29			49		
10	3.95	[illegible]	30	Σq =	9,322.55	50		
11	4.39	632.05	31	Q =	$\Delta t\ (\Sigma q)$	51		
12	4.83	[illegible]	32		645 A	52		
13	5.27	[illegible].37	33	Q =	0.44 x 9,322.55	53		
14	5.71	[illegible]	34		645 x 1.05	54		
15	6.15	[illegible]	35	Q =	4,101.92	55		
16	6.59	[illegible]	36		677.25	56		
17	7.03	[illegible]	37	Q = 6.06"		57		
18	7.47	[illegible]	38			58		
19	7.91	[illegible]	39	100 x	[illegible] = 1.68%	59		

STATE CO

PRINCIPAL SPILLWAY ROUTING

SITE 5
BAKER RIVER WATERSHED 11A APRIL 1969

INTERVENING AREA HYDROGRAPH

TIME	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0
0.00	1.	1.	2.	2.	3.	3.	3.	3.	3.	3.
10.00	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
20.00	3.	4.	3.	3.	3.	3.	3.	3.	3.	3.
30.00	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
40.00	3.	3.	3.	3.	3.	3.	3.	4.	4.	4.
50.00	4.	4.	4.	4.	4.	4.	4.	4.	4.	4.
60.00	4.	4.	4.	4.	4.	4.	4.	4.	4.	5.
70.00	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
80.00	5.	5.	6.	6.	6.	6.	6.	6.	6.	6.
90.00	7.	7.	7.	7.	7.	7.	8.	8.	8.	9.
100.00	9.	9.	9.	10.	10.	11.	11.	12.	13.	15.
110.00	14.	15.	17.	18.	20.	23.	27.	32.	40.	51.
120.00	329.	446.	228.	107.	59.	33.	29.	25.	22.	19.
130.00	14.	16.	15.	14.	13.	12.	12.	11.	11.	10.
140.00	10.	9.	9.	9.	8.	8.	8.	8.	7.	7.
150.00	7.	7.	7.	6.	6.	6.	6.	6.	6.	6.
160.00	6.	5.	5.	5.	5.	5.	5.	5.	5.	5.
170.00	5.	5.	5.	5.	4.	4.	4.	4.	4.	4.
180.00	4.	4.	4.	4.	4.	4.	4.	4.	4.	4.
190.00	4.	4.	4.	4.	4.	4.	4.	3.	3.	3.
200.00	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
210.00	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
220.00	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
230.00	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
240.00	3.	2.	1.	1.	1.	1.	1.	1.	1.	1.
250.00	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
260.00	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
270.00	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
280.00	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
290.00	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.

PRINCIPAL SPILLWAY ROUTING

SITE 5
BAKER RIVER WATERSHED 11A APRIL 1969

24 HOUR ** 10 DAY
CURVE NO. 68., RAINFALL 5.78, Q 2.45 ** CURVE NO. 49., RAINFALL 10.40, Q 3.78

TC 1.80 LENGTH OF PIPE 110. MANNING'S 'N' VALUE 0.012 DRAINAGE AREA 1.05

BASE FLOW IS 1.00 CSM (1.05 CFS).

DISCHARGE TABLE GIVEN.

CONDUIT SIZE IS 30. INCHES.

ELEVATION	STORAGE	CFS
666.00	0.00	0.00
666.00	0.00	4.00
672.00	63.00	9.00
676.76	173.00	11.00
677.00	177.00	17.00
677.50	187.00	41.00
678.00	207.00	76.00
678.01	208.00	81.00
678.30	218.00	96.00
678.70	237.00	107.00
679.35	252.00	193.00
679.95	272.00	401.00

PRINCIPAL SPILLWAY ROUTING

SITE 5
BAKER RIVER WATERSHED 11A APRIL 1967

CONDUIT DIAMETER IS 30. INCHES.

	TIME	INFLOW	AVE IN	OUTFLOW	ELEV.	STORAGE
	6.00	3.	3.	0.	664.43	1.0
	12.00	3.	3.	1.	664.81	2.0
	18.00	3.	3.	2.	665.03	2.7
	24.00	3.	3.	2.	665.24	3.2
	30.00	3.	3.	2.	665.43	3.5
	36.00	3.	3.	3.	665.56	3.9
	42.00	3.	3.	3.	665.67	4.1
	48.00	4.	4.	3.	665.77	4.4
	54.00	4.	4.	3.	665.87	4.6
	60.00	4.	4.	3.	665.96	4.9
	66.00	4.	4.	4.	666.02	5.2
	72.00	5.	5.	4.	666.07	5.7
	78.00	5.	5.	4.	666.14	6.4
	84.00	6.	6.	4.	666.23	7.3
	90.00	7.	6.	4.	666.35	8.4
	96.00	8.	8.	4.	666.52	10.0
	102.00	9.	9.	4.	666.73	12.3
	108.00	13.	12.	4.	667.09	15.5
	114.00	20.	16.	5.	667.66	21.1
	120.00	329.	193.	[illegible]	670.41	47.7
	126.00	29.	54.	10.	675.10	135.1
	132.00	15.	15.	10.	675.33	139.3
	138.00	11.	11.	10.	675.38	140.3
PEAK	139.00	10.	10.	10.	675.38	140.5
	MAXIMUM STORAGE OBTAINED.		TEN DAY DRAWDOWN BEGINS.			
	1.00	1.	1.	10.	674.59	122.3
	2.00	1.	1.	9.	673.92	109.7
	3.00	1.	1.	9.	673.03	97.7
	4.00	1.	1.	9.	672.36	71.3
	5.00	1.	1.	8.	671.25	55.8
	6.00	1.	1.	7.	669.87	42.4
	7.00	1.	1.	6.	668.70	31.1
	8.00	1.	1.	5.	667.72	21.5
	9.00	1.	1.	4.	666.89	13.6
	10.00	1.	1.	4.	666.29	6.9

EMERGENCY SPILLWAY CREST SET AT ELEV 675.5 BY OLD CRITERIA

MAXIMUM STORAGE IS 140.5 ACRE FEET (2.510 INCHES) AT ELEV. 675.38 (CREST, EMER. SPW.).

NET DETENTION STORAGE REQUIRED IS 140.5 ACRE FEET (2.510 INCHES).

GROSS STORAGE REMAINING AFTER 10 DAYS IS 6.9 ACRE FEET (0.124 INCHES)
AT ELEV. 666.20 (START EMER. SPW. AND FREEBOARD ROUTINGS).

NET REMAINING STORAGE IS 6.9 ACRE FEET (0.124 INCHES).

77 PAUSE

$\frac{6.9 \times 100}{140.5}$ = 4.9% REMAINING
94.1% [illegible]
E.S. ROUTING [illegible]
E.S. CREST – [illegible]

DATE 1971

E. S. DESIGN AND FREEBOARD ROUTINGS.

BAKER RIVER 11A JAS R M

CURVE NO. 68. TC 1.80 STORM DURATION 6.00

EMER. SPW. RAINFALL 6.66 FREEBOARD RAINFALL 10.00

CASE NO. 0. DRAINAGE AREA 1.05 EMER. SPW. CREST 678.5

B01 140. L1 373. B02 0. L2 0. B03 0. L3 0.

ELEVATION	STORAGE	CFS	CFS	CFS
672.00	63.	9.	0.	0.
674.00	102.	10.	0.	0.
676.76	172.	11.	0.	0.
678.00	207.	7.	0.	0.
678.01	207.	8.	0.	0.
678.50	222.	97.	0.	0.
679.00	241.	173.	0.	0.
679.50	260.	350.	0.	0.
680.20	287.	524.	0.	0.
680.50	297.	605.	0.	0.
681.10	317.	927.	0.	0.

BAKER RIVER 11A JAS M M

EMER. SPW. INTERVENING HYDROGRAPH.

TIME	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25
0.00	0.	0.	0.	0.	0.	0.	0.	1.	10.	42.
2.50	114.	247.	410.	544.	625.	648.	626.	587.	547.	507.
5.00	467.	428.	396.	370.	347.	323.	293.	251.	205.	160.
7.50	121.	89.	65.	48.	35.	25.	18.	13.	9.	6.
10.00	4.	3.	2.	1.	0.	0.	0.	0.	0.	0.

EMER. SPW. DESIGN ROUTING.

BAKER RIVER 11A JAS M M

BO = 140. L = 373.

	TIME	INFLOW	AVE IN	OUTFLOW	ELEV.
	0.25	0.	0.	0.	671.99
	0.50	0.	0.	0.	671.99
	0.75	0.	0.	0.	671.99
	1.00	0.	0.	0.	671.99
	1.25	0.	0.	0.	671.99
	1.50	0.	0.	0.	671.99
	1.75	1.	0.	1.	671.99
	2.00	10.	5.	9.	672.00
	2.25	42.	26.	9.	672.01
	2.50	114.	78.	9.	672.04
	2.75	247.	181.	9.	672.27
	3.00	410.	329.	9.	672.61
	3.25	546.	477.	9.	673.10
	3.50	625.	585.	9.	673.71
	3.75	644.	636.	10.	674.29
	4.00	626.	637.	10.	674.80
	4.25	587.	606.	10.	675.29
	4.50	547.	567.	10.	675.74
	4.75	507.	527.	10.	676.16
	5.00	467.	487.	10.	676.55
	5.25	428.	447.	17.	676.89
	5.50	396.	412.	32.	677.17
	5.75	370.	383.	46.	677.42
	6.00	347.	359.	57.	677.63
	6.25	323.	335.	69.	677.83
	6.50	293.	308.	81.	678.02
	6.75	251.	272.	88.	678.14
	7.00	205.	228.	90.	678.23
	7.25	160.	182.	96.	678.29
	7.50	121.	141.	96.	678.32
	7.75	89.	105.	96.	678.33
PEAK	8.00	69.	79.	96.	678.31
	8.25	48.	57.	96.	678.29
	8.50	35.	42.	95.	678.25
	8.75	25.	30.	95.	678.21
	9.00	18.	22.	95.	678.16
	9.25	13.	16.	95.	678.10
	9.50	9.	11.	95.	678.04
	9.75	6.	8.	75.	677.99
	10.00	4.	5.	72.	677.94
	10.25	3.	4.	70.	677.89
	10.50	2.	2.	67.	677.84
	10.75	1.	1.	65.	677.79
	11.00	0.	1.	62.	677.74
	11.25	0.	0.	60.	677.70
	11.50	0.	0.	58.	677.66
	11.75	0.	0.	56.	677.61
	12.00	0.	0.	53.	677.57

NO EMERGENCY SPILLWAY FLOW. NO FURTHER ROUTINGS MADE.

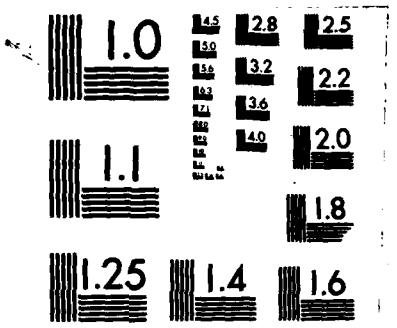
BAKER RIVER 11A JAS M M

FREEBOARD INTERVENING HYDROGRAPH.

TIME	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25
0.00	0.	0.	0.	0.	0.	0.	1.	10.	44.	131.
2.50	301.	584.	899.	1140.	1267.	1276.	1206.	1109.	1017.	929.
5.00	844.	764.	700.	648.	604.	558.	502.	429.	349.	275.
7.50	206.	152.	111.	81.	59.	43.	31.	22.	16.	11.
10.00	8.	5.	3.	2.	1.	0.	0.	0.	0.	0.

AD-A156 533 NATIONAL PROGRAM FOR INSPECTION OF NON-FEDERAL DAMS 2/2
BAKER FLOODWATER RESE.. (U) CORPS OF ENGINEERS WALTHAM
MA NEW ENGLAND DIV JUL 79

UNCLASSIFIED F/G 13/13 NL



FREEBOARD ROUTING.

BAKER RIVER 11A JAS M H

BD = 140. L = 373.

	TIME	INFLOW	AVE IN	OUTFLOW	ELEV.
	0.25	0.	0.	0.	671.99
	0.50	0.	0.	0.	671.99
	0.75	0.	0.	0.	671.99
	1.00	0.	0.	0.	671.99
	1.25	0.	0.	0.	671.99
	1.50	1.	0.	1.	671.99
	1.75	10.	5.	9.	672.00
	2.00	44.	27.	9.	672.02
	2.25	131.	88.	9.	672.10
	2.50	301.	216.	9.	672.32
	2.75	584.	443.	9.	672.78
	3.00	893.	741.	9.	673.56
	3.25	1140.	1019.	10.	674.43
	3.50	1267.	1205.	10.	675.45
	3.75	1276.	1272.	10.	676.49
	4.00	1205.	1241.	44.	677.40
	4.25	1109.	1158.	95.	678.18
	4.50	1017.	1063.	137.	678.76
	4.75	929.	973.	240.	679.18
	5.00	844.	887.	352.	679.50
	5.25	764.	[illegible]	410.	679.73
	5.50	703.	772.	451.	679.[illegible]
	5.75	[illegible]	[illegible]	480.	680.01
	6.00	604.	[illegible]	499.	680.08
	6.25	538.	561.	509.	680.12
	6.50	502.	530.	512.	680.13
PEAK	6.75	427.	466.	506.	680.11
	7.00	349.	389.	491.	680.05
	7.25	273.	311.	469.	679.96
	7.50	206.	240.	434.	679.84
	7.75	152.	179.	405.	679.71
	8.00	111.	131.	370.	679.57
	8.25	81.	96.	330.	679.44
	8.50	59.	70.	284.	679.31
	8.75	43.	51.	243.	679.19
	9.00	31.	37.	207.	679.09
	9.25	22.	26.	176.	679.00
	9.50	16.	19.	162.	678.92
	9.75	11.	13.	150.	678.85
	10.00	8.	9.	139.	678.77
	10.25	5.	6.	128.	678.70
	10.50	3.	4.	119.	678.64
	10.75	2.	3.	109.	678.58
	11.00	1.	1.	101.	678.52
	11.25	0.	1.	96.	678.46
	11.50	0.	0.	96.	678.40
	11.75	0.	0.	96.	678.33
	12.00	0.	0.	96.	678.27

VOLUME CHECK AT HP IS 0.03 PERCENT.
COMPUTED HP 1.63

// PAUSE

APPENDIX E

INFORMATION AS CONTAINED IN THE NATIONAL INVENTORY OF DAMS

INVENTORY OF DAMS IN THE UNITED STATES

STATE	ENTITY NUMBER	DIVISION	STATE	COUNTY	CONGR DIST.	STATE	COUNTY	CONGR DIST.	NAME	LATITUDE (NORTH)	LONGITUDE (WEST)	REPORT DATE DAY | MO | YR
NH	247	NED	NH	009	02				BAKER FLOODWATER RESERVOIR SITE 11A	4350.9	7153.5	27JUL79

POPULAR NAME	NAME OF IMPOUNDMENT
	BAKER FLOODWATER RESERVOIR SITE 11A

REGION	BASIN	RIVER OR STREAM	NEAREST DOWNSTREAM CITY-TOWN-VILLAGE	DIST FROM DAM (MI.)	POPULATION
01	05	TRIBUTARY BAKER RIVER	WENTWORTH	0	376

TYPE OF DAM	YEAR COMPLETED	PURPOSES	STRUC HEIGHT (FT.)	HYDRAU HEIGHT (FT.)	IMPOUNDING CAPACITIES MAXIMUM (ACRE-FT.)	IMPOUNDING CAPACITIES NORMAL (ACRE-FT.)	DIST	OWN	FED R	PRV/FED	SCS A	VER/DATE
RCPG	1971	C	35	24	355	9	NED	N	N	N		B

REMARKS

D/S BIAS	SPILLWAY CREST LENGTH	SPILLWAY TYPE	SPILLWAY WIDTH (FT.)	MAXIMUM DISCHARGE (FT.)	VOLUME OF DAM (CY)	POWER CAPACITY INSTALLED (MW)	POWER CAPACITY PROPOSED (MW)	NAVIGATION LOCKS NO	LENGTH (FT.)	WIDTH (FT.)	LENGTH (FT.)	WIDTH (FT.)	LENGTH (FT.)	WIDTH (FT.)	LENGTH (FT.)	WIDTH (FT.)
1	640	U	140	1275	38497											

OWNER	ENGINEERING BY	CONSTRUCTION BY
N H WATER RESOURCES BD	SOIL CONSERVATION SER	ROBIE CONSTRUCTION CO

REGULATORY AGENCY			
DESIGN	CONSTRUCTION	OPERATION	MAINTENANCE
NONE	NONE	NONE	NONE

INSPECTION BY	INSPECTION DATE DAY | MO | YR	AUTHORITY FOR INSPECTION
HOWARD NEEDLES TAMMEN BERGENDOFF	16MAY79	PL 92-367

REMARKS
33-SPILLWAY AND RISER

END

FILMED

8-85

DTIC